

JUSTINIAN'S BRIDGE OVER THE SANGARIUS AND THE DATE OF PROCOPIUS' *DE AEDIFICIIS*

(PLATES VI, VII)

I. JUSTINIAN'S BRIDGE OVER THE SANGARIUS

IN the village of Beşköprü, about five kilometres to the south-west of the town of Adapazarı in western Turkey, and just to the north of the main Istanbul–Ankara highway, there stands a large well-constructed bridge; its fabric is generally in good condition apart from the destruction of a short section of the causeway near its eastern end to permit the passage of the branch railway line to Adapazarı. Although the bridge now only spans two minor side channels of the small stream called the Çark Deresi, which drains Lake Sophon (modern Sapanca),¹ there is no doubt that the bridge was originally designed on the orders of the emperor Justinian to span the mighty Sangarius (modern Sakarya) which at present flows in a south–north direction about three kilometres to the east of the bridge. The only detailed first-hand account of the bridge is still that by Texier, whose description has to be corrected on some important points.²

The western approach to the bridge used to be spanned by a monumental triumphal arch, which has now completely vanished, its site being covered by farm buildings. According to Texier's plan, the two piers of the arch were 4.35 m square, the arch's opening was 6.19 m wide, its height 10.37 m, and it was decorated with a plain cornice at a height of 6.54 m;³ the south pier contained a spiral staircase. At the eastern end, where the bridge causeway terminated abruptly in a steep rocky outcrop which would have forced the ancient road to take a right-angle turn to the south, there is a large apsed structure facing directly onto the bridge. Its function is unclear; it may merely have been a decorative parallel for the western triumphal arch, suitably modified to take account of the steep hillside behind it, or, since the apse points east, it might have been built as an open-air shrine. The apse's height, opening and decorative cornice are similar to those of the triumphal arch as described by Texier; the apse is framed by two substantial piers which support a barrel vault about 8.5 m wide; the piers are continued in the direction of the bridge by arches of 4.02 m span, which spring from two further piers 3.45 m square (the north arch and pier have now vanished).⁴

The overall length of the bridge, including causeways, from the triumphal arch to the apse piers, is 429 m, and its width 9.85 m. The bridge itself comprises five main arches, of which the westernmost has a span of approximately 23 m, and the other four of 24–24.5 m; these arches are supported by six central piers, approximately 6 m in width; these six piers all have substantial buttresses, rounded to the south and pointed to the north, which rise to the full height of the piers.⁵ At either end of this central section, there is an intermediate arch of 19.5–20 m; there are

¹ The main channel of the Çark Deresi (Çark Deresi I on the road signs) flows about 200 m west of the bridge, in a converging side valley.

² C. Texier, *Description de l'Asie Mineure* i (Paris 1839) 55–6 and pl. IV; there is an enthusiastic but imprecise description by Xavier Hommaire de Hell, *Voyage en Turquie et en Perse* (Paris 1854–60) ii 277–80, and a rough sketch of the east apse at iv pl. XVI.2; a good photograph of the bridge is published by K. O. Dalman, *Der Valens-Aquädukt in Konstantinopel* (Bamberg 1933) Taf. 3, Abb. 10.

³ See FIG. 1; most of the measurements in this article are derived from Texier's description, roughly checked where possible by my own observations. The silting up of the bridge piers means that many measurements cannot be precise. My visits to the bridge have been

made possible by generous assistance from Merton College, Oxford, the British Academy and the European Science Foundation.

⁴ See PLATES VIc, VIIa.

⁵ See FIG. 2 and PLATE VII a, b. Texier referred to eight arches, a mistake which has been handed down in subsequent descriptions, whereas the number of main arches was five, as proved both by size and by the number of buttressed piers. Theophanes 234.17, ed. C. de Boor (Leipzig 1883) correctly referred to five tremendous arches, and in antiquity the bridge was probably known as *Πεντεγέφυρα* (corrupted to *Ποντογέφυρα*, i.e. pontoon bridge, at Pachymeres ii 330.20, ed. E. Bekker [Bonn 1835]), a name preserved in the modern village name Beşköprü (Five bridges).

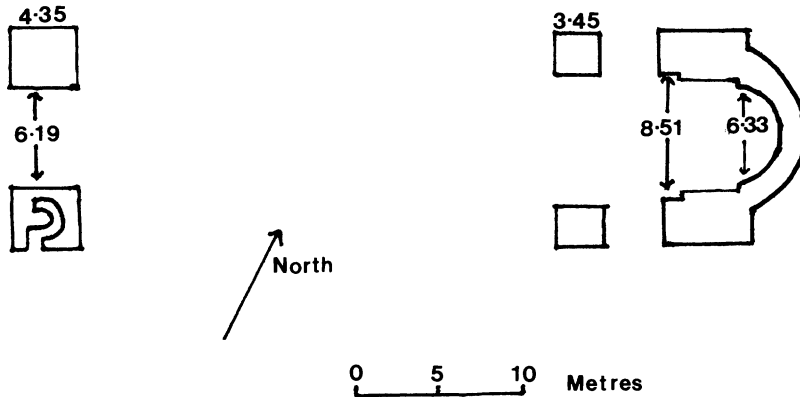


FIG. 1. Ground plans of triumphal arch and apse (after Texier).

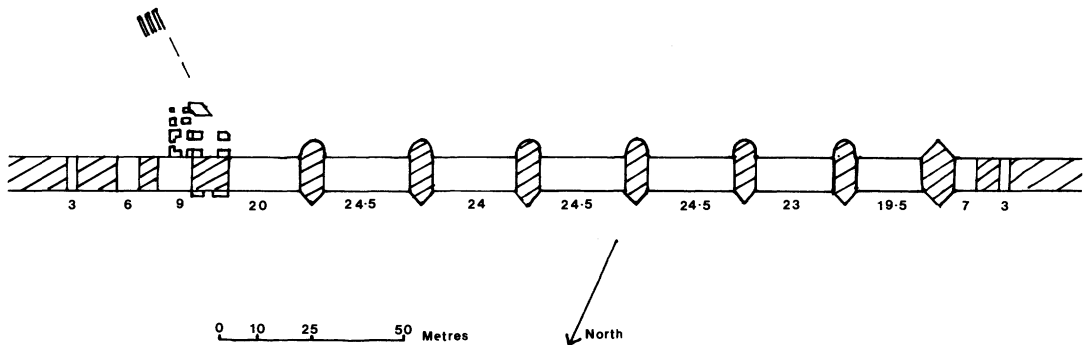


FIG. 2. Central section of Sangarius bridge (after Texier).

also five smaller arches of between 3 and 9 m span, two at the western end of the bridge and three at the eastern end (of which one was missed by Texier). The piers which separate the intermediate arches from the first of the small arches are broader than the central piers, being about 9.5 m wide; that at the western end has low pointed breakwaters both north and south (overlooked by Texier); that at the eastern end has on its north face two low, small rectangular buttresses, which may have replaced an earlier buttress of uncertain design, while on its south face there is a more complex structure, built in two or more phases, which ultimately blocked part of the adjoining small arch (I describe this structure below). The buttresses, both rounded and angular, are decorated with a plain cornice similar to that on the apse. The key stones of the five main and two intermediate arches were probably decorated with a small cross in relief; the surface of most of the key stones has been damaged, but a cross is still visible on the south face of the westernmost main arch and on the north face of the adjacent intermediate arch.

The bridge's design has aroused controversy because of the shape of the pier buttresses. The majority of Roman bridges with pier buttresses have pointed cut-waters facing upstream, either with a pointed downstream tail or with no tail at all. For this reason it has been concluded that the Sangarius bridge must have been designed for a river-flow from north to south, as opposed to the present south-north flow of the Sakarya and of the small Çark. To achieve this north-south flow, a grand scheme for diverting the Sangarius' course has been ascribed to Justinian by F. G. Moore:⁶ instead of allowing the river to empty into the Black Sea, Justinian apparently planned to divert the Sangarius in an enormous loop near Adapazarı, first to the west and then to the south-west, so that it emptied into Lake Sophon. This massive extra flow of

⁶ F. G. Moore, 'Three canal projects, Roman and Byzantine', *AJA* liv (1950) 108-10, an account which is mainly based on that by von Diest in *Petermann's Geog. Mitt. Erg.* xxvii, Heft cxxv (1898) 70. Pliny *Epist.* x 61.

water into the lake would then have enabled Justinian to resurrect the plan proposed by Pliny the Younger to the emperor Trajan to link Lake Sophon and the Gulf of Nicomedia (Izmit korfesi) by a canal. The whole scheme was abandoned after the construction of the bridge, leaving this monumental structure to span a minor stream flowing in the 'wrong' direction. The sole evidence for this scheme is the shape of the pier buttresses on the bridge, and there are good reasons to question this widely-accepted solution.

The motive proposed (by Moore) for Justinian's scheme is implausible, namely to enable shipments from the interior of Asia Minor to reach the Propontis directly instead of through the gorges of the lower Sangarius with its cascades and rapids. For much of its length the Sangarius is not suited for large-scale river transport and its course from Geyve to Adapazarı through the Aksofu Dağ is as turbulent as in the gorges of the lower river so that it would have been difficult for river traffic to come as far downstream as Lake Sophon. Agathias' description of the river as *σκαφέεισιν ἀνέμβατος* is accurate.⁷ Even if it were conceded that Justinian did plan to reactivate Pliny's scheme, then the proposed river diversions are unnecessarily complicated. A massive embankment would have been required at Adapazarı stretching from the present channel of the Sangarius to the Çark, and then the Sangarius would have needed substantial embankments as it flowed back up the valley of the Çark into Lake Sophon.⁸ Such labours could have been avoided by constructing an embankment well to the south of Adapazarı, and of Justinian's bridge, which could have diverted the river soon after it emerged from its defile through the Aksofu Dağ: at this point the ground between the present river channel and the lake is flat and a westerly diversion of the Sangarius could have been achieved without difficulty, so that the diverted Sangarius would never have flowed under Justinian's bridge. Thus the hypothesis of the canal scheme, implausible in itself, does not explain why the Sangarius should have flowed north-south under the bridge.

A second objection to this theory are the references to the bridge's construction in the ancient sources. Procopius, who was writing during the construction of the bridge, states that the stone bridge was intended to replace an unsafe pontoon bridge that had frequently been swept away.⁹ Although Procopius was composing a panegyric designed to maximise Justinian's building achievements, there is no reference to the grand canal project, a scheme that Procopius could have exploited to panegyric advantage. Agathias, in an epigram inscribed on one of the bridge's stones, describes the impassable Sangarius as now bound by strong arches and imprisoned by stone fetters;¹⁰ another poet, Paul the Silentiary, also mentions the subjugation of the proudly-roaring Sangarius, whose surface is spanned by a bridge of dressed stone.¹¹ Theophanes records that Justinian's bridge replaced an earlier wooden structure, and that to facilitate its construction the Sangarius was temporarily diverted into another channel.¹² Finally, in his description of the Optimaton theme Constantine Porphyrogenitus mentions the Sangarius river, on which he says there stands the wonderful bridge constructed by Justinian.¹³

⁷ *A.P.* ix 641; see further n. 9 below. Cf. Plb. xxi 37 (also Livy xxxviii 18.7) who records that even near its source the Sangarius was very difficult to cross.

⁸ The average gradient of the Adapazarı plain is about four feet drop per airline mile, according to R. J. Russell, 'Alluvial morphology of Anatolian rivers', *Ann. Assoc. Am. Geog.* xlv (1954) 364. Moore's hypothesis requires that the Sangarius should flow more than five miles back from Adapazarı to Lake Sapanca, which would entail a rise in level of about 20 ft. It cannot be proved that the physical geography of the Adapazarı area was exactly the same in the sixth century, since earthquakes might have affected the terrain. However, during the first century AD (during Pliny's governorship of Bithynia), and probably still in the fourth century (Amm. Marc. xxii 8.14), the Sangarius flowed into the Black Sea, as it does today,

and it is difficult to see how even the most serious of tremors could have forced the Sangarius to flow back from north to south in the intervening period.

⁹ Procop. *de Aed.* v 3.8-11, ed. J. Haury, re-ed. G. Wirth (Leipzig 1964).

¹⁰ *A.P.* ix 641, also quoted by Zonaras iii 159; Constantine Porphyrogenitus, *de Thematribus*, ed. E. Bekker (Bonn 1840) i 27, quotes the epigram without attribution, but notes that it was inscribed on the bridge. There is no trace of the epigram on the bridge; it was perhaps inscribed on the triumphal arch, like the inscription on the Tagus bridge at Alcantara.

¹¹ *Ekphrasis S. Sophiae*, ed. P. Friedländer (Leipzig 1912) 928-33.

¹² Theoph. 234.15-18.

¹³ *Loc. cit.* (n. 10).

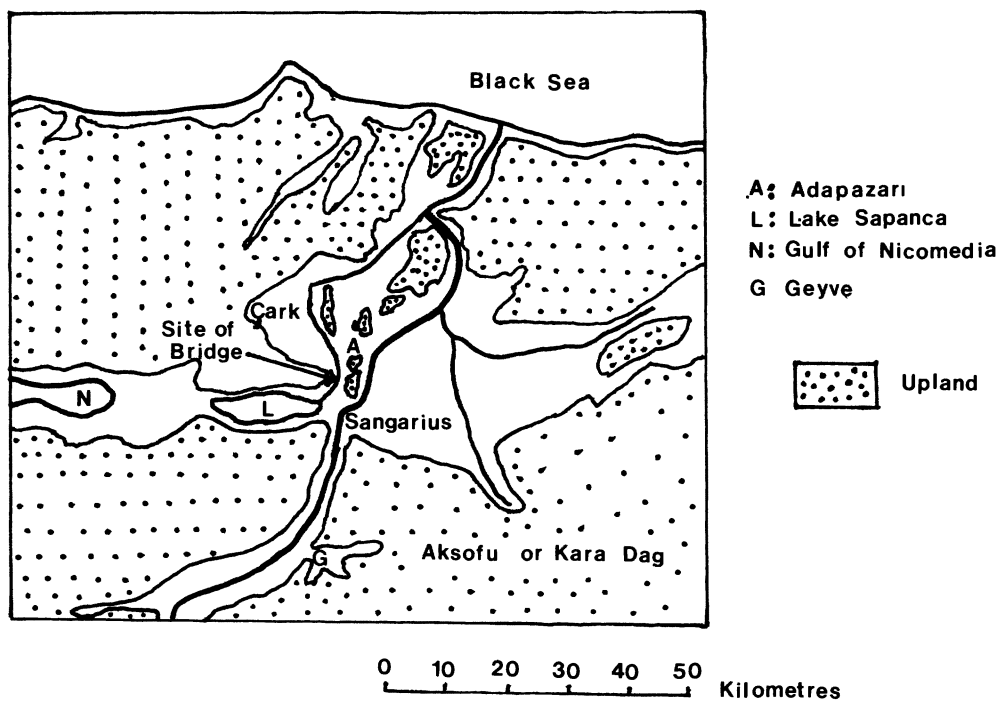


FIG. 3. Vicinity of Adapazari.

According to these authors, the bridge was designed to replace an inadequate earlier structure, and the Sangarius actually flowed under the completed bridge: it seems improbable that all were misinformed.

The design of the bridge piers is a less compelling argument than was believed by Moore. It is true that the most common design for pier cut-waters on Roman bridges is angular,¹⁴ but this design is by no means uniform: some bridges have rounded cut-waters, and at least one large bridge combines angular and rounded cut-waters on its various piers.¹⁵ The design of downstream tails is more standard, although it should be noted that many bridges had no tail on their piers: where they are present, tails are most commonly angular, although they are occasionally rounded or square.¹⁶ A very few bridges combine angular buttresses at one end of a pier with rounded at the opposite end; in all cases the angular buttress is the upstream cut-water with the rounded buttress as the downstream tail.¹⁷ It is the design of these bridges which provides the basis for the traditional interpretation of the Sangarius bridge.

There are two reasons why the parallels are not compelling. First, it should be noted that there was no uniform design for bridge piers in antiquity, and that the Sangarius bridge would stand in an exceptional category of composite designs even if its angular buttresses did face upstream. There is no theoretical reason why a Roman bridge should not have combined the rounded cut-waters of, for example, the bridge at Merida, with the standard angular tail. Such a design would have been structurally sound, indeed significantly sounder than that of the *ponte Fabricio* and its parallels (n. 17). The function of cut-waters and tails on bridge piers is to minimise the turbulence in the river that is created by the obstruction to the water flow caused by the bridge pier, since turbulence increases both the scouring action of the river on the bridge's

¹⁴ See P. Gazzola, *Ponti Romani* (Florence 1963) e.g. nos 28, 29; this book is certainly not a comprehensive account of Roman bridges and it contains little information on bridges in Turkey.

¹⁵ Rounded, Gazzola nos 41 (*ponte Cestio* in Rome), 161 (*Merida* in Spain); combination, no. 157 (*Chaves* in Portugal).

¹⁶ Gazzola nos 29 (angular), 41 (rounded), 91 (square).

¹⁷ Gazzola nos 40 (*ponte Fabricio* at Rome), 196 (*Medjerda* in Tunisia), 234 (*Moselle bridge* at Trier), 259 (*Sabun bridge* in Syria). These are the only close parallels in Gazzola for the Sangarius design.

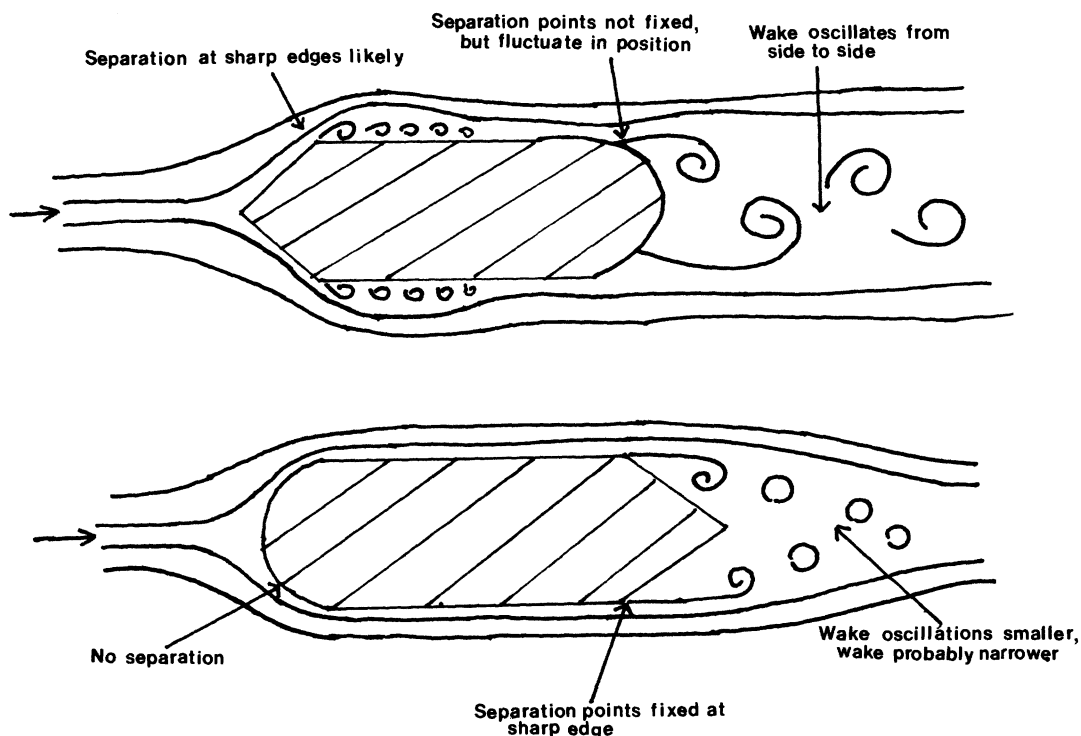


FIG. 4. Water flow around bridge piers.

foundations and the abrasive effect of stones and sediment carried down by the turbulent flow. If turbulence is to be reduced, it is important that the river should flow cleanly around the piers, so that eddies and oscillations are kept to a minimum. With regard to the shape of the cut-waters, a rounded design is preferable since an angular cut-water tends to create eddies along the bridge piers; these eddies might also generate some cross-turbulence, if the disturbed water flow around one bridge pier interacted with the flow around the adjoining pier. Further, an angular cut-water would be more likely to suffer damage from objects floating downstream. With regard to the tails, a pointed tail would generate less turbulence since the water would separate cleanly at the sharp edges; with a rounded tail, the separation points would fluctuate along the curved edge so that larger oscillations would be created in the wake. These points are illustrated in FIG. 4. Thus if one end of a pier is rounded and the other angular, it is structurally better to have the rounded end on the upstream side.¹⁸ The evidence suggests that Roman engineers had not evolved an accepted solution to the problem of pier design; it is possible that Justinian's architects discovered a useful improvement in pier design, perhaps on one of the many occasions when they were required to repair damaged bridges,¹⁹ and that this improvement was incorporated in the new Sangarius bridge.

The second and more compelling argument against the traditional interpretation of the Sangarius bridge is the design of the structure on the south face of the bridge at its eastern end. Texier referred to this as a wayside halt (*mansio*), an improbable function for a structure that

¹⁸ I am very grateful to R. E. Franklin of the University of Oxford Department of Engineering Science for his professional advice on the problems of water flow and the design of bridge piers, and for the diagrams which are reproduced in FIG. 4. F. Sear's recent discussion of Roman bridges, *Roman Architecture* (London 1982) 42, accurately analyses the problem of river turbulence, but is marred by a confusion between upstream and downstream.

¹⁹ Procop. *de Aed.* v records repairs to several bridges

in Asia Minor; at Adana, for example, Justinian had to carry out major repairs to the bridge piers which had been weakened by the force of the river Sarus (*de Aed.* v 5.8–12). The Romans did recognise that scouring of the foundations was a serious problem; counter-measures which they adopted were to pave the river bed around the pier foundations (e.g. at Dara) or to reinforce the foundations (e.g. the angular cut-water of a bridge at Pergamum is founded on a solid rectangular base).

must have been subject to regular flooding. His plan is seriously misleading; I was able to examine the structure in some detail and I provide a revised sketch (FIG. 5; see also PLATES VI*d*, *e*, VII*c*). The structure was built in two or more phases, which are not bonded into the main fabric of the bridge. The first phase consists of a pair of vaults, which are supported by five piers and which project south from the bridge pier that separates the eastern intermediate arch from the first of the smaller arches. All five piers and the inner (north) vault are still standing, whereas most of the outer (south) vault has disappeared. The inner chamber is covered by a cross-groined vault springing from the four arches that link the supporting piers; the outer chamber was probably covered by a plain barrel vault, which sprang on the south directly from the large angled pier and on the north from an arch, lower than that supporting the inner vault, linking the two middle piers. Notable features are the shape of the large southern pier with its angled east and west faces, and the angled west face of the western middle pier: the southern pier seems to be

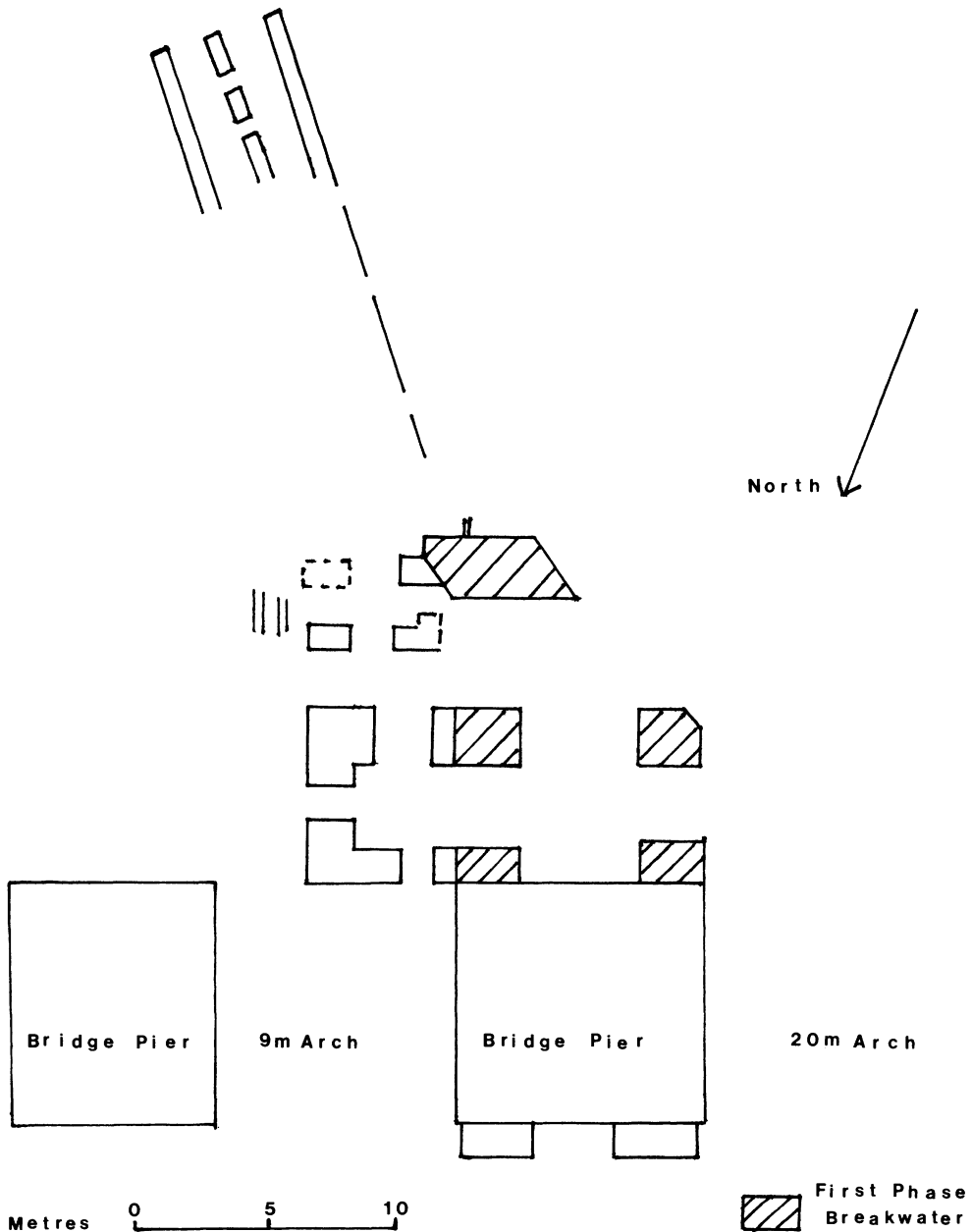


FIG. 5. Breakwater (after Texier).

designed to break the current of the river, thereby relieving the main structure of the bridge, while the angled west faces of the piers point towards the central arches of the bridge and suggest that the river was flowing from south to north. The masonry of the piers is similar to that of the bridge, and most of the faces of the piers are decorated with a plain cornice similar to that on the bridge buttresses; although the structure is not bonded to the bridge, these similarities suggest that it was added shortly after the bridge's completion.²⁰

The second phase consists of a vaulted structure added to the east side of the first phase, in such a way that two-thirds of the opening of the first small eastern bridge arch was blocked. At present, two barrel-vaulted chambers and part of a third are standing; it was not possible to determine whether the structure was continued south by further vaults, but this seemed unlikely. The vaulted chambers are connected to each other by low arches that constitute a water channel running in a south–north direction and leading into the partially-blocked small bridge arch. The first vault rests on piers, of which the western two are built onto the east piers of the first-phase vault, while the eastern two are linked by a double arch; the lower of these arches (mostly disappeared) was considerably narrower than the upper arch, which spanned the full width of the vault. The second vault is narrower than the first, and its southern piers are not aligned with any of the piers of the first-phase structure; its south-west pier interrupts the south first-phase vault, and it may have been intended to strengthen that vault. The third vault, which extended the second-phase structure to the same length as the first-phase, has partly collapsed; its south-west pier was built onto part of the large south pier of the first-phase vaulting; its south-east pier has vanished. The masonry of the second phase is moderately good, although perhaps less regular than that of the first phase; there is no cornice on the piers.

In addition to these two phases of vaults, there are also the remains of two inter-connecting tunnels or channels running in a south–north direction, which begin about 40 m south of the bridge and about 25 m south of the extant vaulted structure. Only the south end of these tunnels can now be inspected, since the rest has collapsed and is submerged by bramble thickets. It was not possible, therefore, to determine exactly how the tunnels linked up with the vaults, but they perhaps fed into the water channel passing through the second-phase vaults, and also possibly into the unblocked section of the small bridge arch. On the south face of the south first-phase pier, there are traces of a wall leading south that should presumably be associated with these tunnels, and immediately to the west of the second-phase vaults there are traces, almost entirely buried, of a pair of parallel south–north walls leading in the direction of the small arch. The west or river side of the pair of tunnels has been robbed of its stone facing. On top of the tunnels are the remains of two parallel brick walls.

The various phases of this structure are now buried by a considerable depth of silt, and so it was not possible to answer the question of whether the structure was built in the river bed, at the same level as the bridge, or whether it might have been sited at a higher level upon the east bank of the river. My view is that it was built in the river bed, judging by the levels of silting in the water channels (observe the water channel and the height above ground level of the first-phase cornice in *PLATE VIIId*). The structure was probably located adjacent to the east bank of the normal river channel, but well inside the flood channel of the river; I doubt that foundations could have been securely fixed unless they had been placed in the river bed. Excavation might resolve this question and could reveal whether there were any further measures, now buried, for protecting the foundations of the bridge piers. Another question that must be left unsolved is whether the vaults were used to provide a base for a building on the level of the bridge causeway: it would have been a suitable position for a guard house, but there are now no traces of any constructions on top of the vaults.

²⁰ One detail for which I have no explanation is the presence in the south face of the bridge pier of a small rectangular opening (approx. 80 cm high by 40 cm wide) that is partially blocked by the south-east pier of

the inner vault. Behind the opening there appeared to be a narrow tunnel, but it was not possible to establish where it led.

This complex structure was designed to function as a large breakwater (*promachōn*) that channelled the main flow of the Sangarius away from the bridge causeway with its small flood arches at the east end of the bridge and towards the central arches.²¹ The main current of the Sangarius presumably showed a tendency to flow close to its east bank, hence the need to prevent the river from edging further east, a danger that might only have been noticed after the construction of the bridge. During the construction period the river had been diverted into a different channel,²² and the Sangarius bridge would have been sited to take account of the river's presumed course. After the bridge was finished and the river had been redirected into its main channel, it was perhaps discovered that the main current had shifted slightly to the east so that protective measures had to be taken on the east bank. As a result, very soon after the completion of the bridge the first double vaulted structure was added, greatly strengthening the endangered pier by breaking the main force of the current; the corresponding pier at the west end of the bridge needed no such protection and retained its small angled breakwaters. Later these measures proved insufficient and so the second-phase vault and probably also the double tunnel were added, providing a more extensive defence for the east river bank while allowing a limited water flow to be channelled towards the first small eastern arch.

The recognition of this structure as a breakwater solves the construction problem of the Sangarius bridge. Although the design of the pier buttresses might at first sight favour a north–south water flow, the evidence for Roman bridge design is not in fact decisive since rounded breakwaters are not unknown and pointed tails are common. The massive breakwater at the east end of the bridge must have been constructed on the upstream side: hence the bridge was constructed for a south–north river flow, the ancient sources correctly describe the bridge as a bridge over the Sangarius, and there is no need to invoke the highly implausible river diversion scheme proposed by Moore.

For at least three centuries, if Constantine Porphyrogenitus' reference in the *de Thematibus* to the bridge crossing the Sangarius is not anachronistic, the bridge served to carry the main Roman military highway to the east across the Sangarius. Before the end of the thirteenth century, however, the river had moved to a more easterly course, probably into its modern channel. This emerges from George Pachymeres' account of the reign of Andronicus Palaeologus, where Pachymeres (ii 330–1) describes how heavy rains made the Sangarius burst its banks, leave its present channel and return to its former channel, the one traversed by Justinian's bridge, which was then occupied by the small Melas (i.e. Çark) river. After a month in flood, the Sangarius returned to the eastern channel which it had left. Pachymeres' account is further proof, if it should be needed, that Justinian's bridge was built to cross the Sangarius on its south–north flow down the valley now occupied by the Çark.

II. THE DATE OF CONSTRUCTION

A second problem connected with the Sangarius bridge is the precise date of its construction. The completion can be dated to AD 562 by references in two contemporary poems. Paul the Silentiary, in his poem composed for the rededication of S. Sophia in December 562, introduced a brief reference to the completed bridge.²³ In the context of the poem, the mention of the

²¹ Cf. the massive breakwaters stretching upstream from the Merida bridge, or the *promachōn* mentioned by Procopius at Justinian's bridge over the Siberis (*de Aed.* v 4.3); on the latter, see the brief account by J. G. C. Anderson, 'Exploration in Galatia cis Halym II', *JHS* xix (1899) 65–7.

²² Theoph. 234.16–17. There are two possible routes for this diversion, either about 200 m to the west so that it would have flowed down the present main valley of

the Çark Deresi, or else about two km to the east so that it could have flowed around the hill at the east end of the bridge, and then back across the flat site of Adapazarı into the Çark valley. The former seems more probable.

²³ Paul Sil. *Ekphrasis* 928–33. For other allusions in Paul's poem to very recent events, see Mary Whitby, 'The occasion of Paul the Silentiary's *Ekphrasis* of S. Sophia', *CQ* xxxv (1985).

Sangarius bridge is a curious, and slightly awkward, intrusion which would be explained if the bridge was a very recent achievement by Justinian that Paul felt obliged to mention. This supposition gains support from the other poetic reference, in the epigram by Agathias which was engraved on the bridge (*A.P.* ix 641; *cf.* n. 10), and which was probably commissioned to mark its completion. The epigram's opening couplet lists the successes (of Justinian) over the haughty west, the Median nations and all the barbarian horde, successes which had been capped by the subjugation of the Sangarius. The tone of triumph and the inclusion of Persia among the submissive peoples can be paralleled in other poems written after the conclusion of the 50-year peace between Rome and Persia in winter 561/2, which Roman authors chose to represent (with some licence) as a great success.²⁴ Agathias' epigram on the Sangarius bridge belongs to this period,²⁵ so that the bridge was completed in AD 562, after the 50-year peace but before the rededication of S. Sophia.

The date of the start of construction is a matter for debate. Theophanes, under *annus mundi* 6052 (i.e. AD 559–60),²⁶ in Justinian's thirty-third year, records that 'In this year the emperor began to build the bridge of the river Sangarius; and having diverted the stream itself into another bed, he curved five formidable arches and made it to be traversed, whereas previously the bridge was wooden'. Scholars have claimed that Theophanes' evidence must be misdated, since in the *de Aedificiis* Procopius records that the bridge was under construction and the accepted date for the composition of this work is AD 554/5. This date was established by Stein in a brief discussion which has not been subjected to proper scrutiny.²⁷ Stein's argument is in fact far from conclusive: his dismissal of Theophanes' evidence is cavalier and his positive arguments for advancing the date depend on the assumption that Procopius, even though he was writing a panegyric, could not have ignored three unfavourable events, the collapse of the dome of S. Sophia in 558, the revolt of the Tzani in 557 and the Samaritan riot in 555. I examine Procopius' references to the Tzani, Samaritans and S. Sophia later, but will first treat the crucial question of the reliability of Theophanes' evidence.

Stein rejected Theophanes' date on two grounds: first, he urged that the date must be treated with caution, since it was only an *annus mundi* date which Theophanes certainly would not have derived from his probable source, Malalas' *Chronicle*, because Malalas dated events by indiction years; second, in any case, Theophanes' date of 559/60 related to the completion rather than to the start of the bridge. Theophanes' information is, however, dated by Justinian's regnal year, which could have originated in Malalas, as well as by *annus mundi*, and the date specifically refers to the start of the construction of the bridge: *τούτῳ τῷ ἔτει ἤρξατο κτίζειν ὁ βασιλεὺς τὴν γέφυραν τοῦ Σαγάρεως ποταμοῦ*.²⁸ Theophanes' description of the bridge in the following sentence anticipates the final appearance of the building, whose construction would have lasted more than one year.²⁹

The reliability of Theophanes' account varies greatly from one part of the *Chronographia* to another, depending largely on the number and natures of the sources which were available to him, how clear and precise their chronology and arrangement were, and how closely they coincided with his own interests and the needs of his *Chronographia*. Thus the difficult language

²⁴ For similar hyperbolic references to the peace, *cf.* Paul Sil. *Ekphrasis* 13–15, 138, 936, and Averil Cameron, *Corippus: In laudem Iustini Augusti Minoris* (London 1976) comm. on preface 30 f. (p. 122).

²⁵ Agathias' epigram was probably composed before Paul's *Ekphrasis*, since the linguistic affinities between the epigram and *ekphrasis* are best interpreted as a deliberate compliment by Paul to his friend and fellow-poet.

²⁶ The starting point of Theophanes' *annus mundi* years is debated, see G. Ostrogorsky, 'Die Chronologie des Theophanes im 7. und 8. Jahrhundert', *BNJ* vii (1928/29) 1–56 and V. Grumel 'L'année du monde dans la Chronographie de Théophauc', *EO* xxxvii (1934)

396–408. It is probable that Theophanes was not consistent throughout his *Chronographia* and that he was influenced in part by the practice of the particular sources which he was using; for his account of the latter part of Justinian's reign, Theophanes seems to have begun his year in September.

²⁷ Procop. *de Aed.* v 3.10; E. Stein, *Histoire du Bas-Empire* ii (Paris 1949) 837.

²⁸ On the inceptive force of *ἄρχομαι*, see the Appendix below.

²⁹ *Cf.* Theoph. 232.27–233.3, where the completion of Justinian's restoration of S. Sophia is described in the notice which records the start of repairs.

and obscure chronology of Theophylact Simocatta's *Historiae* undoubtedly contributed to Theophanes' errors in his account of the late sixth century.³⁰ Theophanes also encountered problems when trying to combine information from two or more sources, particularly if the sources had different chronological systems, for example an indiction-based chronicle and a campaign-year based secular history. On the other hand, at certain points Theophanes had a single reliable source such as the *Chronicle* of Malalas, which directly fitted his needs and arrangement, and in these places Theophanes' account reflects the quality of his source more accurately. Therefore, although Stein was right to urge that Theophanes' dates must be treated with caution, it is essential that the accuracy of a particular date should be assessed by careful examination of the notice's context in Theophanes' narrative and of its possible source.³¹ This type of examination was not attempted by Stein, who was content to dismiss Theophanes on general grounds, nor by those who have accepted Stein's claim.

Theophanes' account of Justinian's reign divides into three sections, the first covering the *annus mundi* years 6020–6024 inclusive (AD 527/8–531/2), the second AM 6025–6037 (AD 532/3–544/5) and the third AM 6038–6057 (AD 545/6–564/5). These three divisions reflect, and were doubtless caused by, differences in the level of coverage in Malalas' *Chronicle*,³² which was Theophanes' main source for the period. It is generally recognised that Malalas' *Chronicle* falls into two main parts, an original chronicle that narrated events from the creation of the world down to the early years of Justinian's reign, and an extension, Malalas *continuatus*, that carried on until the end of Justinian's reign.³³ In AD 532 after the account of the Nika riot, there is a clear break between the full Antioch-centred account of the original Malalas and the much shorter record of Malalas *continuatus*;³⁴ there is also a significant break in Malalas *continuatus*' account of the mid-540s, after which the chronicle's information becomes more extensive and shows considerable knowledge of events at Constantinople.

In the first section, AM 6020–6024, Theophanes' account of events is very detailed,³⁵ and almost all this detailed information was derived from Malalas, although, because the extant version of Malalas is only an epitome of the text used by Theophanes, there are some places where Theophanes might appear to be recording a little additional information. It is, however, reasonably safe to assume that such 'additional' details were recorded by Malalas and have merely been excised from our epitome of Malalas.³⁶ There are only four separate notices for which there is no source passage in the extant text of Malalas; two of these notices most probably

³⁰ On this, see Michael Whitby, 'Theophanes' chronicle source for the reigns of Justin II, Tiberius and Maurice (565–602 A.D.)', *Byzantion* liii (1983) 312–45.

³¹ This point was clearly stated by C. Mango, 'The date of the Studius Basilica at Istanbul', *BMGS* iv (1978) 119: 'Since the dates given by Theophanes are sometimes right and sometimes wrong, it may be advisable to examine from this point of view a sample section of the *Chronicle* in the area that concerns us.' Mango's examination showed that Theophanes' chronology for the 460s was not reliable, but because of the great variability in the quality of Theophanes' narrative one cannot conclude that his account of the 550s must be inaccurate simply because it is inaccurate for the 460s, 570s or 580s.

³² Ed. L. Dindorf (Bonn 1831).

³³ K. Krumbacher, *Geschichte der byzantinischen Literatur* (Munich 1897) 331; G. Moravcsik, *Byzantinoturcica* (Berlin 1958) i 329. The exact date of the termination of Malalas *continuatus* is uncertain, because the last folios of our sole MS of Malalas are lost. The *Laterculus Imperatorum Romanorum Malalianus*, a Latin chronicle which shows some affinities with Malalas, contains a list of emperors that terminates in the ninth

year of Justin II (AD 573/4), but this need only designate the date when the Latin translator or excerptor was reworking Malalas (*Laterculus*, ed. T. Mommsen, *MGH Auct. Ant.* xiii, *Chron. Min.* 3 [Berlin 1894] 426–37). In Theophanes, there is a marked difference between the relatively full account of the latter years of Justinian's reign, which was mostly derived from Malalas, and the less detailed and more imprecise account of Justin II's reign; hence the text of Malalas used by Theophanes most probably ended in AD 565.

³⁴ Moravcsik (n. 33) placed the break between the original Malalas and Malalas *continuatus* immediately before the account of the Nika riot (Mal. 473.4), but there is a more obvious break after Malalas' very long account of the riot (Mal. 477.3), where the narrative becomes much less comprehensive.

³⁵ Theoph. 174.1–186.5, 12 pages of Teubner text for the five years.

³⁶ Cf. the discussion by J. B. Bury, 'The Nika Riot', *JHS* xvii (1897) 101–4; also Stein (n. 27) ii 830, who noted that the Syriac chronicle of Ps.-Dionysius of Tel Mahre confirmed that Theoph. 229.10–14 came from a part of Malalas excised by the epitomator.

originated in Malalas, but were omitted by the epitomator of our text of Malalas,³⁷ the third originated in an anonymous sixth-century ecclesiastical history which is now represented by a series of extracts known as the *Anecdota Cramer*,³⁸ while the fourth is the much-discussed *Akta dia Kalopodion*, for which I believe Malalas was the source.³⁹ Not only did Theophanes derive nearly all his information from Malalas, but he also preserved in almost exactly the same sequence the narrative order of information in Malalas;⁴⁰ there are minor errors, but the whole section is fairly accurate.

In the second section, AM 6025–6037, there is a marked change in Theophanes' narrative. At first sight, in terms of sheer length, Theophanes' account appears to be even fuller than in the previous section, since he devoted 38 pages to these 13 years, but the length of the account is deceptive since most of it comprises two long narratives (31 pages in total) paraphrased from Procopius.⁴¹ When this Procopian material is excluded, there is a marked decline in the fullness of Theophanes' coverage of these years, a decline which reflects the significant reduction in the coverage of his preferred source, Malalas, at the division between the original Malalas and Malalas *continuatus*.⁴² In contrast to the previous section where Malalas provided almost all of Theophanes' information, Theophanes' account of these years is built up from three sources, Procopius, Malalas and the *Anecdota Cramer*.⁴³ In the process of combining these sources Theophanes committed several chronological errors.⁴⁴ Although the information from *Anecdota Cramer* is in roughly the correct sequence, as is some of the material from Malalas,⁴⁵ much of the Malalas-based material is badly out of place: five notices which should have been placed in AM 6021 (AD 528/9) are inserted between the *annus mundi* years 6025 and 6032,⁴⁶ and two notices are placed one indiction cycle late.⁴⁷ Theophanes' errors and confusions in this section display to the full the types of inaccuracy to which he was prone when attempting to cope with inadequate or diverse source material, and which are responsible for his reputation for unreliability.

In the third section, AM 6038–6057, Theophanes provided a fuller coverage of events than in

³⁷ Theoph. 177.33–178.5, an account of a harsh winter and of prayers for the termination of a series of earthquakes at Antioch, which directly continues Theophanes' report of the first earth tremor; this tremor was recorded by Mal. 442.18–443.7. Theoph. 181.10–11, a stage of Roman–Persian negotiations that would probably have been recorded between Malalas' other information on this diplomacy (453.12–14 and 454.11–15).

³⁸ Theoph. 181.24–31; cf. *Anec. Cramer* 112.19–27 (J. A. Cramer, *Anecdota graeca e codd. manuscriptis bibliothecae regiae parisiensis* ii [Oxford 1839]).

³⁹ On the *Akta*, see Alan Cameron, *Circus Factions* (Oxford 1976) 318–33, and Michael Whitby, 'The Great Chronographer and Theophanes', *BMGS* viii (1982/3) 9–10.

⁴⁰ Theoph. 174.27–176.17 groups three separate reports of diplomacy in Malalas; Theophanes 178.27–179.14 amalgamates two different stages of a complex series of Roman–Persian negotiations (Mal. 447.22–448.2 and 455.10–456.18), and as a result the second stage is antedated; Theoph. 179.15–27, an account of Roman–Arab warfare based on Mal. 434.19–435.17, is inserted one year late.

⁴¹ Theoph. 186.26–216.4 from Procop. *Bell.* iii–iv (Vandal expedition) and 219.19–222.8 from *Bell.* ii 20–1 (Persian campaign of AD 542).

⁴² Malalas covered these years in only five pages (477.13–482.18), whereas the first five years of Justinian's reign occupy 52 pages of text.

⁴³ Notices for which source passages are no longer extant can probably be assigned as follows: Theoph. 216.7–14 (Iberian embassy), 219.14–16 (Bulgarian captives) and 224.29–33 (earthquake at Constantinople) are likely to have originated in Malalas; Theoph. 216.23–24; 217.12; 222.9–19 (ecclesiastical information) in *Anecdota Cramer*. The summary of Vandal history at Theophanes 186.18–26 is paraphrased from Procop. *Bell.* iii 3.

⁴⁴ Thus, as the result of an incorrect indiction date in the *Anecdota Cramer*, Theophanes reported the same earthquake under two different years, at 222.25–30 based on *Anec. Cramer* 113.24–30 (but with the regnal year adjusted to fit the incorrect indiction), and at 229.5–10 based on Mal. 486.23–487.9 and correctly dated.

⁴⁵ Thus Theoph. 216.24–25; 217.4–12; 218.18–20 and 224.11–15 were derived respectively from Mal. 479.15–20; 479.7–12; 479.23–480.7 and 482.12–13.

⁴⁶ Theoph. 186.8–13 (AM 6025); 186.15–17 (AM 6026); 216.17–22 (AM 6028); 217.26–218.17 (AM 6031); and 218.31–219.14 (AM 6032) were derived from Mal. 441.8–12; 449.12–14; 436.17–437.2; 437.19–438.20 and 450.19–451.15, information which all belongs to the same indiction year.

⁴⁷ Theoph. 222.33–223.27 (Axumite–Homerite conflict) and 224.15–27 (Andreas the Italian entertainer), derived from Mal. 433.3–434.18 and 453.15–454.4.

the previous section, although it is still less extensive than for the start of Justinian's reign.⁴⁸ Almost all Theophanes' information can be securely identified as originating in Malalas, apart from two places where our text of Malalas is defective, at 490.12 a lacuna two folios in length covering the years AM 6051–6054, and at 496.7 where the text of Malalas ends in mid-sentence.⁴⁹ There is only a limited amount of information from the *Anecdota Cramer*.⁵⁰ One notable feature about this section of Theophanes is that his chronology is exceptionally accurate, mainly because his narrative reproduces the order of information in Malalas. The maximum chronological error in this section is one year, caused either by an incorrect date in *Anecdota Cramer*⁵¹ or by the insertion of indiction-dated information in an *annus mundi* or regnal year adjacent to the correct one.⁵² There are only a very few of these minor errors in this section and they do not at any point disrupt the order of the Malalas-based information.

It is unfortunate for the dating of the Sangarius bridge that Theophanes' notice of the construction falls in one of the places where Malalas' text is defective, so that it is not possible to prove conclusively who was Theophanes' source. However, most of Theophanes' information in these two passages can be assigned to Malalas with reasonable certainty. After the text of Malalas fails in the middle of AM 6055 (AD 562/3), most of Theophanes' account concerns events at court, urban riots, diplomacy and natural disasters, the type of material which Malalas had provided for the immediately preceding years. Equally, for the years covered by the lacuna in Malalas (mid AM 6051–6054) all Theophanes' information is also of the 'Malalas' type and, as was recognised by Stein, it is highly probable that the account of the Sangarius bridge originated in Malalas.⁵³ Since Theophanes has preserved the narrative order of his Malalas-based information throughout this section (from AM 6038 onwards), it is reasonable to infer that the Sangarius bridge was started after Justinian left Selymbria in August 559,⁵⁴ but before rumours of his death circulated at Constantinople on 9 September 560.⁵⁵

The importance of this investigation for the date of the Sangarius bridge is twofold. First, it establishes beyond reasonable doubt that Theophanes' information came from Malalas, a very reliable contemporary source. Second, it shows that Theophanes' account of the years AD 545/6–564/5 is, by his standards, unusually accurate and is unlikely to contain any major chronological error or dislocation of the type needed to advance the date of the Sangarius bridge to the year required by Stein. There should, therefore, be a general inclination to trust Theophanes' evidence on the Sangarius bridge unless there are strong reasons to the contrary. The evidence so far suggests that the bridge was started in autumn 559, after Justinian had returned from supervising building operations in Thrace, and was completed in 562, after the peace with Persia but before the rededication of S. Sophia. Justinian had perhaps supervised part

⁴⁸ These twenty years occupy 16½ pages of text, 225.1–241.15.

⁴⁹ Malalas' own account of this period was fuller than for the previous section: his surviving account occupies 19½ pages, and some allowance has to be made for the defective text (on which, see K. J. Neumann, 'Der Umfang der Chronik des Malalas in der Oxforder Handschrift', *Hermes* xv [1880] 356–60). The extent and general accuracy of Theophanes' use of Malalas in this section can be seen in the lists of parallel passages in I. Rochow, 'Malalas bei Theophanes', *Klio* lxx (1983) 469–471. The detail of Malalas' account of these years, before it was epitomised, is revealed by a few palimpsest fragments published by A. Mai (*Spicilegium Romanum* ii [Rome 1839] *de fragmentis historicis tusculanis*, fr. IV, pp. 22–8) and by Mal. *frr.* 48–51, in Const. Porph. *Excerpta de Insidiis*, ed. C. de Boor (Berlin 1905) pp. 173–6.

⁵⁰ *Anec. Cramer* 113.8–9 provided Theophanes' incorrect date for Theodora's death (226.8–9; contrast Malalas 484.4–5 and *Anec. Cramer* 111.10–11), and his account of Justinian's heresy (*Anec. Cramer* 111.15–19;

Theoph. 240.31–241.5); probably also Theophanes' summary of Pope Vigilius' actions in Constantinople (225.13–28; contrast Mal. 483.3–4; 484.11–13; 485.4–7; 483.14–16) and the ecclesiastical information at 228.28–229.3; 230.30–33; 240.26–30 and 241.6–15. The account of an earthquake and storm (229.29–230.3) could have come from either Malalas or *Anecdota Cramer*.

⁵¹ Some regnal year dates in the *Anecdota Cramer* are one year late (113.8–9, 24–30).

⁵² E.g. Theoph. 232.27–233.3, the collapse of S. Sophia, which should have been placed in AM 6050, not 6051.

⁵³ Stein (n. 27) ii 837.

⁵⁴ Theoph. 234.6; this statement that Justinian remained at Selymbria until August accords with the account of his *adventus* at Constantinople on 11 August (Const. Porph. *de Caerimoniis*, ed. J. Reiske [Bonn 1829] 497.13–498.13). This provides useful confirmation for Theophanes' accuracy in this section.

⁵⁵ Theoph. 234.20.

of the construction, since the rumours of his death in 560 were provoked by a long absence from the capital,⁵⁶ and he would certainly have seen the completed structure when he travelled to offer prayers in the church at Germia in Galatia in October 563.⁵⁷ The bridge, therefore, took about three years to construct, a length of time that does not appear unreasonable for a project of this scale. Justinian was renowned for his speed and energy as a builder, as for example in the construction and the subsequent repair of his church of S. Sophia at Constantinople. It is not possible to present for comparison the construction periods of other Justinianic bridges, or indeed of other late antique bridges,⁵⁸ but it is perhaps relevant to note the duration of a far larger masonry construction project that was undertaken in the early sixth century: the emperor Anastasius organised the construction of a circuit wall at Dara, 2.8 km long, 4 m wide and over 10 m high, which, together with substantial towers, an outer wall, and probably also some buildings inside the walls, was completed within two or three years according to Zachariah of Mytilene.⁵⁹ Admittedly, the defences of Dara had to be built at great speed and special measures were taken to recruit workmen for the project, but this example does suggest that three years is by no means too short a period for the completion of a masonry bridge about 430 m long and 10 m wide. The length of construction period would, inevitably, have been dependent upon the level of resources committed to the project. The Sangarius bridge was an important project. It carried one of the main Roman routes to the eastern frontier from Constantinople, a route that Justinian would not have permitted to be disrupted for longer than necessary at a time of fighting in Lazica against the Persians (until AD 557) and of important diplomatic negotiations. Justinian is likely to have ensured that the bridge was built as quickly as possible, and that the temporary river diversion (together, presumably with a temporary bridge) was not in operation too long. These considerations should be borne in mind by those who accept Stein's date of 554/5 for the composition of Procopius' *de Aedificiis*: the Sangarius bridge was already well under way, indeed its speedy conclusion could be anticipated, when Procopius was writing (v 3.10); but, if it was not finished until 562 (as suggested by the evidence of Paul the Silentiary and Agathias), this would entail a construction period of about a decade, which seems rather long.

III. THE DATE OF PROCOPIUS' *DE AEDIFICIIS*

The reasons for doubting Theophanes' information are connected with the long-standing debate about the date of *de Aedificiis*,⁶⁰ a debate caused at least in part by the scarcity of datable references in the work. Apart from his statement that the Sangarius bridge would soon be completed (v 3.10), Procopius narrated Justinian's works in a timeless atmosphere, which was perhaps intended to suggest the permanence of the emperor's achievements and to conceal the relative decline in building activity during the latter part of Justinian's reign. Major works like S. Sophia or the church to the Virgin at Jerusalem are described by Procopius as though he were witnessing the actual construction process, a standard ekphrastic technique, and overall there is

⁵⁶ Theoph. 234.20–22; Justinian was believed to be in Thrace, probably supervising defensive constructions, but it would have been a simple matter for him to have sailed from Selymbria to Nicomedia to view the progress of the bridge.

⁵⁷ Theoph. 240.11–13; the remains of this substantial church, which Justinian had repaired, can be seen at the village of Yürme in the vicinity of Sivrihisar (for a brief description of the church, see J. W. Crowfoot, 'Notes upon late Anatolian art', *ABS.A* iv [1897/8] 86–92).

⁵⁸ Caesar *Gallic Wars* iv 17–18 records that the construction of a wooden trestle bridge across the Rhine in 55 BC took 10 days. Caesar's speed on this occasion

was exceptional, and his wooden bridge would have been much simpler to construct than the masonry bridge over the Sangarius, but it illustrates what could be achieved with energy and determination.

⁵⁹ Ps.-Zachariah of Mytilene, *Ecclesiastical History*, trans F. J. Hamilton and E. W. Brooks (London 1899) vii 6.

⁶⁰ F. Dahn, *Prokopius von Cäsarea* (Berlin 1865) 38; J. Haury, *Procopiana* (Augsburg 1891) 27–8; J. B. Bury, *A history of the later Roman Empire from the death of Theodosius I to the death of Justinian* (London 1923) 428; G. Downey, 'The composition of Procopius' *de Aedificiis*', *TAPA* lxxviii (1947) 182–3.

little attempt to set the buildings in chronological perspective. The *de Aedificiis* lacks the chronological focus that is naturally present in Procopius' historical works.

(i) *Stein's arguments*

Of Stein's three reasons for advancing the date of *de Aedificiis* to 554/5, two can be easily dismissed. Stein claimed that Procopius' description of the Tzani (iii 6), a tribe living on the Roman eastern frontier in Armenia, as peaceable loyal subjects and pious Christians must have been composed before the Tzani revolted in 557. This revolt was not, however a general uprising: some of the Tzani remained loyal and the rebels were quickly crushed in 558 by an expedition led by the general Theodore, who was himself a member of the Tzani and who had risen high in Roman service.⁶¹ For the next two decades, at least, the Tzani paid tribute without further disturbance. This brief period of disruption is certainly sufficiently minor to have been ignored by a writer composing a panegyric in AD 560 or 561.

A similar objection can be advanced against Stein's reliance on Procopius' reference to the Samaritans. At the end of a chapter devoted to the unruly violence of the Samaritans during the reigns of Zeno and Anastasius, Procopius states, 'But now the emperor Justinian, although he has for the most part converted the Samaritans to a more pious existence and has made them Christians, has left the old wall of the church on mount Garizin . . . but by surrounding it with another wall on the outside has made it completely impregnable' (*de Aed.* v 7.16). Stein felt that this passage would have been singularly inappropriate if composed after the Samaritan revolt of July 555, whereas its tone was consistent with the optimistic atmosphere of the early 550s as reflected in Novel 129.⁶²

The revolt of 555 was a short burst of violence caused by an unexpected alliance of Jews and Samaritans. The trouble appears to have been restricted to Caesarea, and it may have been more akin to one of the frequent faction riots that plagued the cities of the Roman empire in the sixth century than to a full-scale national revolt.⁶³ The trouble quickly subsided, probably before the widow of the proconsul Stephen had to petition Justinian to punish those guilty of her husband's murder and before Justinian sent Amantius to search out the culprits. There is no evidence that Justinian re-imposed on the Samaritans the restrictions which he had lifted in 551, and the Samaritans remained relatively unfettered until Justin II issued Novel 144 in May 572. As a native of Caesarea, Procopius had personal knowledge of conditions in Palestine and of the Samaritan problem;⁶⁴ being well informed, he could correctly assess the relative unimportance of the 555 riot, particularly in comparison with the bitter national revolt of 529. The 555 disturbance did not require mention in the *de Aedificiis* and the description of the pious Samaritans, which is in any case qualified by the proviso 'for the most part', could have been composed for a panegyric in 560 or 561.

Procopius' silence over the collapse of the dome of S. Sophia is a more serious problem, but this can nevertheless be resolved in one of two ways. One solution is Haury's proposal that *de Aedificiis* was composed over a period of years, with Bk i completed before the dome's collapse in 558 and the remaining books two or three years later;⁶⁵ Bk i was deliberately not revised to take account of the dome's collapse, since such a calamity was best left unmentioned in a

⁶¹ Agathias, *History*, ed. R. Keydell (Berlin 1967) v 1-2.

⁶² *Cod. Just.* iii 129, ed. R. Schoell and W. Kroll⁶ (Berlin 1954) 647; this was issued in June 551 at the suggestion of Sergius, bishop of Caesarea, who believed that it would encourage the Samaritans to behave better and would ensure their future tranquillity. This *Novel* merely lifted some of the restrictions that had been imposed on the Samaritans in the early years of Justinian's reign.

⁶³ The analogy with a faction riot is brought out in our main source for the incident, *Mal. fr.* 48 (*Exc. de Insid.* 173), which compares the alliance of Jews and Samaritans with the famous *prasinobenetoi* of the Nika riot. This incident was not sufficiently important to be recorded by Agathias in his *History* of the period, and it is only briefly noted in the *Chronicle* of Michael the Syrian (trans. J. B. Chabot [Paris 1899-1910] ii 262).

⁶⁴ *Anecl.* 11.24-30.

⁶⁵ Haury *loc. cit.* (n. 60).

panegyric.⁶⁶ It is very probable that the work lacked a final revision.⁶⁷ The alternative solution is that the whole work was written in 560 or 561 and that the dome's collapse was overlooked because, again, it would have disrupted the celebratory atmosphere at the start of the panegyric. In favour of the latter solution one can note that Procopius' brief reference to the dome is scarcely sufficient praise for the crowning glory of Justinian's greatest building achievement;⁶⁸ that he failed to describe the decoration of the dome, a mosaic Cross set against a gold background;⁶⁹ and that, although he recorded that 40,000 pounds of silver were used in the decorations of the sanctuary, an area that would not have been affected by the dome's collapse, he did not mention the lavishly-ornate altar, ciborium or ambo, all of which were crushed by the dome's collapse.⁷⁰ These points are certainly not conclusive, but lead me to believe that Procopius was probably writing in AD 560/1 at a time when most of the structural damage to S. Sophia had been repaired, although the decorations and costly ornaments had not been replaced.⁷¹ So as not to give offence to Justinian, Procopius sensibly avoided all mention of the dome's collapse.⁷² Instead he described the church as an unsullied monument to Justinian's greatness, praising his skill as a builder which had been revealed by decisive interventions during the original construction almost a generation earlier.⁷³

Thus there are two possible explanations for Procopius' silence about the collapse of S. Sophia's dome, and so the third of Stein's reasons for advancing the date of *de Aedificiis* can be rejected. The *de Aedificiis* is clearly a panegyric work designed to maximise Justinian's reputation as a ruler and builder, and it is possible to identify a few places where Procopius may have adapted the facts in order to contribute to the praise of Justinian.⁷⁴ It would be contradictory to castigate Procopius for such panegyric exaggerations, but to refuse to admit that there may also be certain silences for the same panegyric purpose.

⁶⁶ Downey (n. 60) 176–81 claimed that differences between the two main manuscripts of *de Aedificiis* proved that one tradition (A) represented an early version of the work, which was subsequently revised, particularly in Bk i, to produce the other tradition (V). This argument is totally unfounded, since many of the minor differences between the manuscripts reflect the carelessness of A's scribe, and the few major differences were caused by A's abbreviation of the tradition represented by V. A's revision of i 1.22–6, the passage regarded by Downey as most significant, is ungrammatical and very clumsy, while the effects of abbreviation are evident at iv 3.15, where A carelessly preserves a reference forward to a list of Balkan forts (iv 4) which is actually omitted from A.

⁶⁷ The restoration of the walls of Chalcis in Syria is reported twice (*de Aed.* ii 11.1 and 8), as is the restoration of the Crimean city of Bosphorus (iii 7.10, 12); there may be some repetitions in the lists of Balkan fortifications in Bk iv, although this is harder to prove since some of the forts may have had similar names. Procopius' arrangement of his material is occasionally awkward: the baths near Anchialus in Thrace belong in the second half of Bk iv, but are described at the end of the periplus of the Black Sea (iii 7.18–23); some of the monastic constructions included in the list at the end of Bk v (e.g. v 9.29, Antioch, and 9.31, Mesopotamia) should have been recorded in ii.

⁶⁸ *De Aed.* i 1.45–6; furthermore, the first dome had been more impressive than its replacement (Agathias *Hist.* v 9.5).

⁶⁹ For an evocative description of the dome and its decoration, see Paul Sil. *Ekphrasis* 489–511, accepting

the readings of A. Ludwich, *Textkritische Noten zu Paulus Silentarius* (Königsberg 1913) 7–9.

⁷⁰ *De Aed.* i 1.64–5; Theoph. 232.30–1 records the destruction of the ambo etc., whose original appearance is described (in exaggerated terms) in the ninth-century *Narratio de Sancta Sophia*, ed. T. Preger, *Scriptores Originum Constantinopolitanarum* (Leipzig 1901) 16, 17, 21. The reconstructed ambo was described by Paul Sil., *Ekphrasis Ambonis*, ed. P. Friedländer (Leipzig 1912).

⁷¹ *Narratio* 28 records that the timber scaffolding was left in position for a year after the physical reconstruction of the dome had been completed, to ensure that the dome's masonry had set properly before the mosaic decorations were repaired by the decorators, who would have made use of the builders' scaffolding (cf. R. M. Harrison, 'Anicia Juliana's church of St. Polyuktos', *XVI Internationaler Byzantinisten-kongress Akten II.4*, *JOB* xxxii (v) [1982] 436).

⁷² Paul Sil. *Ekphrasis* 177–85, 204–13, apologised profusely for rousing Justinian's grief by references to the disaster, references which could not be avoided by Paul since the collapse was the root cause for the rededication ceremony to which Paul's poem contributed; Paul excused himself from describing the process of reconstruction on the grounds that it was too technical (*Ekphrasis* 279–83).

⁷³ *De Aed.* i 1.67–8.

⁷⁴ See J. Crow, 'Dara, a late Roman fortress in Mesopotamia', *Yayla* iv (1981) 11–20, and B. Croke and J. Crow, 'Procopius and Dara', *JRS* lxxiii (1983) 143–59, although the criticisms levelled at Procopius in these two articles are seriously exaggerated, as I hope to demonstrate in a forthcoming article.

(ii) *Alleged cross-references to de Aedificiis*

A different argument for an early dating of *de Aedificiis* has been proposed by Rubin and Veh, who alleged that there are three cross-references to the *de Aedificiis* in the *Anecdota* and *Bella* i–vii, works which were both completed c. AD 551.⁷⁵ None of the cross-references is convincing. The first occurs in Procopius' account of Christ's letter to Abgar of Edessa, where Procopius stated (*Bell.* ii 12.29–30): '... he is concerned to gain possession of it, judging this from the events of my own lifetime, which I will reveal in the appropriate place. And a thought once occurred to me, that if Christ did not write these things which have been mentioned, nevertheless, because men have come to this opinion, for that reason He wishes to preserve the city uncaptured so that He may never give them any excuse for straying.' The sense of the first clause is obscure, since it is preceded by a lacuna of uncertain length, but the reference forward must be an anticipation of the account of Khusro I's siege of Edessa in AD 544 (*Bell.* ii 26–7), since one reason why Khusro wished to capture Edessa was a desire to disprove the myth of Christ's protection of the city (*Bell.* ii 26). The account of the destruction of Edessa by flood (*de Aed.* ii 7.1–16) has no conceivable relevance to this passage and there is no reason why the reference forward should anticipate it (as Rubin and Veh asserted).

The second possible cross-reference, which also concerns Edessa, occurs in the *Anecdota* where Procopius offered as proof of God's dislike of Justinian and disfavour towards the Roman empire the fact that 'the river Scirtus flooded Edessa and became the engineer of numerous calamities for its inhabitants, as will be recorded by me in my previous writings'.⁷⁶ There is a textual problem in this passage, and one must either emend the tense from future to past,⁷⁷ or 'previous' to 'subsequent'.⁷⁸ If the tense of the verb is changed, then Procopius would be using the phrase 'previous writings' to refer back to information already recorded in the *Bella*, a practice that can be paralleled elsewhere in *Anecdota*;⁷⁹ although there is no extant account of the Scirtus' flood in the *Bella*, it is probable that it was described in the lacuna in the passage on Edessa at *Bell.* ii 12.29.⁸⁰ If 'previous' is changed to 'subsequent', the forward reference might anticipate Procopius' description of the flood damage at Edessa in *de Aed.* ii 7, but this description of the flood is used to increase Procopius' praise for Justinian's restoration of the city, a favourable emphasis that contradicts the whole point of the *Anecdota* passage. In the *Anecdota*, Procopius exploited every chance to expand his criticism of Justinian, and it is most probable that he only refrained from recounting the flood in full because he had already described it in an earlier work. In the circumstances, a backward reference to the *Bella* seems certain at this point.

The third possible cross-reference is no more convincing. In his criticism at *Anec.* 13.30 of Justinian's Lenten abstinence, Procopius stated: 'For on that occasion he often went without food for two days as has been said . . .'. At *de Aed.* i 7.7–10, Procopius does describe Justinian's rigorous practices at Easter, including the occasional two-day fast, but this is not the object of the cross-reference in the *Anecdota* which is merely picking up the immediately preceding account of Justinian's habits (13.29). There is nothing in any of these alleged cross-references to prove that Procopius was already contemplating the *de Aedificiis* in the late 540s when he was composing his other works.

(iii) *Subjective arguments*

Subjective considerations for an early date can also be advanced, for example that the

⁷⁵ B. Rubin, 'Prokopios von Kaisareia', *RE* xxiii.1 (1957) 573; O. Veh, *Zur Geschichtsschreibung und Weltauffassung des Prokop von Caesarea* iii (Bayreuth 1953) 15.

⁷⁶ *Anec.* 18.38, ὡς μοι ἐν τοῖς ἔμπροσθεν λόγοις γεγράφεται.

⁷⁷ Emending γεγράφεται to γέγραπται, as Dindorf

in the Bonn Corpus text.

⁷⁸ Emending ἔμπροσθεν to ὀπίσθεν, as Haury in the Teubner text.

⁷⁹ E.g. *Anec.* 1.3.

⁸⁰ This indeed was Haury's first suggestion (n. 60) 18, but he changed his opinion before he edited the *Anecdota*.

similarities of outlook between Procopius' three works show that they were all written concurrently, or that the apparently unfinished state of all three works entails that Procopius must have died in mid-composition in AD 553/4, soon after the terminal date of the *Bella* in 552. Such special arguments cannot be conclusive. There are certainly similarities between the *Anecdota*, *Bella* and *de Aedificiis*, but these are not surprising in works written by the same author and do nothing to prove that *de Aedificiis* was not written about a decade after the other two works. The argument that death is the only explanation for the compositional problems of Procopius' works is equally unsound. Procopius appears to have stopped work on the *Anecdota* in 551, at least three years before the suggested date of his early death. With regard to the *Bella*, Procopius had been content to publish Bks i–vii in 551, when fighting was continuing in Lazica and Italy so that his narrative of these wars could not be brought to a definite conclusion; Procopius did not, however, indicate that he intended to continue his accounts. Unlike Bks i–vii, Bk viii is brought to a definite conclusion at a suitable military event, the ending of the Gothic war at the battle of Busta Gallorum in 552, a victory which had perhaps provided Procopius with the motivation to compose the book. Procopius' failure to record the brief Frankish invasion of Italy in 553/4 and the fighting in Lazica which continued until 557 does not prove that Procopius must have died. Until the agreement of the 50-years' peace with Persia in winter 561/2, there was no significant event that might have persuaded Procopius to undertake a further continuation of the *Bella* in a ninth book.⁸¹ The main reason for regarding *de Aedificiis* as incomplete is the absence of any reference to buildings in Italy, but there is in fact very little evidence for Justinianic constructions in Italy: the Ravenna churches which Downey cited as proof of incompleteness were not financed by Justinian.⁸² It is conceivable that there were some Justinianic works to be recorded, perhaps in a paragraph or a short chapter, but this omission would be no more significant than other minor omissions for which Procopius apologised in his conclusion (vi 7.19).⁸³ There is no evidence for the date of Procopius' death and so it should not be used as proof for the date of composition of *de Aedificiis*.

(iv) Dating

There are no conclusive arguments to support the early date for *de Aedificiis*: Stein's claims are not compelling, there is no truth in the cross-references alleged by Rubin and Veh, and subjective speculations are equally insubstantial. By far the soundest evidence for dating the *de Aedificiis* is Theophanes' mention of the Sangarius bridge: the accuracy of Theophanes' reference, which is most probably based on the contemporary chronicler Malalas, has been established, as far as is possible, in section II above. This is sufficient to withstand the weak arguments that have been urged in opposition: parts, at least, of *de Aedificiis* were written after AD 559/60. Two other references in *de Aedificiis* lend some support to this date of composition; neither is conclusive, but they should still be noted. The description of Justinian's restoration of the Long Walls of Constantinople after they had been overrun by an enemy invasion, and of the reconstruction of Selymbria (iv 9.9–13), accords with Justinian's activities in AD 559. Shortly after Easter 559, Justinian set out with the inhabitants of Constantinople, encamped at Selymbria, undertook the restoration of the sections of wall which the Cotrigurs had overrun during their invasion in 558/9, and remained at Selymbria until August 559. It is possible that Procopius' account of imperial works in the vicinity of the capital in iv 8–9 records this imperial

⁸¹ It is possible that Procopius continued to collect information about these events, information of the type that subsequently enabled Agathias, who was not a diligent historical researcher, to carry on Procopius' narrative.

⁸² Downey (n. 60) 176; *CIL* xi 1.288 and 294 record that S. Vitale and S. Apollinare in Classe were both built, decorated, and dedicated (in AD 547 and 549

respectively) by Julius Argentarius. See the discussion by F. W. Deichmann, *Ravenna, Kommentar* ii (Wiesbaden 1976) 3–33, particularly 15–21.

⁸³ Procopius does not mention the buildings recorded by Mal. 430.18–19, 435.18–20, and 445.8–9 (the suburb of Sykae and the baths of Dagistheus at Constantinople, and an aqueduct at Alexandria), or the church at Germia (*cf.* n. 57).

expedition in 559 to restore control near the city: the coastal Via Egnatia was repaved with stone to improve communications with the Long Walls, new bridges were constructed and defences restored at towns and cities near the Long Walls.⁸⁴ Another possible late building is the church at Edessa, whose restoration is noted by Procopius (*de Aed.* ii 7.6). This should probably be identified with the church constructed and dedicated by the bishop Amazonius (AD 553–560) whose consecration is celebrated in a Syriac hymn.⁸⁵ The consecration of this church is just compatible with Stein's date for *de Aedificiis*, on the assumptions that Amazonius dedicated the church at the very start of his episcopacy, and that he did not in fact construct and decorate the church but merely appropriated the credit for the accomplishment of his predecessor Addai.⁸⁶ However, much of Amazonius' first year as bishop was spent in Constantinople at the fifth Oecumenical Council,⁸⁷ and so it is probable that the church was completed rather later in his episcopacy, which would explain why Syriac chroniclers give him sole credit for the building.

This additional evidence is not conclusive, and the case for dating *de Aedificiis* to 560/61 must rest firmly on Theophanes' date for the Sangarius bridge. There is no evidence in *de Aedificiis* that compels one to reject Theophanes' date, and indeed Theophanes is supported by Procopius' statement that Justinian 'has already devoted much time to it and I know that he will complete it in the near future since it is evident that God collaborates with him in all his labours' (*de Aed.* v 3.10): the bridge was to be finished in AD 562, so that Procopius' reference would accurately describe the state of the bridge in 561, when over half of the bridge would already have been built. It is not surprising that few of the buildings described by Procopius can be cited in support of this date of composition for *de Aedificiis*, since the majority of Justinian's buildings cannot be dated precisely; further, at least until the flurry of activity occasioned by the earthquake of December 557, there was perhaps less construction work during the 550s, when the empire had been weakened by protracted warfare and the plague, than there had been during the first two decades of Justinian's reign (AD 527–547).⁸⁸

The dating of *de Aedificiis* to AD 560/61 is important for our understanding of Procopius as a writer, since this late date allows some scope for possible developments in his attitude towards Justinian. In the *Anecdota* (AD 551) and the *Bella*, particularly Bk viii (AD 553), there is harsh criticism of Justinian, whereas in *de Aedificiis* the lavish encomium of Justinian is constructed with considerable skill: this encomium does not read as if it had been composed by a writer who was reluctantly fulfilling an official commission to produce a panegyric on an uncongenial theme. The late date is also important for our appreciation of the later years of Justinian's reign. Corippus and Agathias, when composing panegyric poems for Justin II, portrayed his

⁸⁴ Theoph. 233.8–11, 234.3–6; this date was accepted by B. Croke, 'The date of the "Anastasian Long Wall" in Thrace', *GRBS* xxiii (1982) 69 n. 39. On his return to Constantinople in AD 559, Justinian probably travelled from Selymbria by the old inland Via Egnatia, which passed round the heads of the two large inlets of Büyük and Küçük Çekmece, since he entered the capital by the Edirne Gate (Const. Porph. *de Caer.* 497.13–16); this choice of route would be explained if the coastal Via Egnatia was being reconstructed at the time.

⁸⁵ This identification cannot be proved, but was accepted by Averil Cameron, 'The Sceptic and the Shroud', *Continuity and Change in Sixth Century Byzantium* v [Variorum 1982] 23–4 n. 46. Michael the Syrian ix 29 records Amazonius' construction of the church. The Syriac hymn is translated by C. Mango in *The Art of the Byzantine Empire 312–1453* (Englewood Cliffs, N.J. 1972) 57–60.

⁸⁶ Verse 2 of the Syriac hymn reads 'And now Amidonius, Asaph and Addai have built for Thee at

Edessa this glorious Temple'; Mango suggested, in his n. *ad loc.*, that Asaph and Addai were presumably the architects of the cathedral, but this Addai could equally well be Amazonius' predecessor as bishop.

⁸⁷ His presence is recorded in the official acts, *Acta Conciliorum Oecumenicorum* iv 1, ed E. Schwartz and J. Straub (Berlin 1971). The Council's preliminary proceedings probably began in March, and the official proceedings concluded in June. Making allowance for travelling, which is unlikely to have been hurried, Amazonius would have been absent from Edessa for at least six, more probably eight, months in 553.

⁸⁸ Apart from the Sangarius bridge, the only works in *de Aedificiis* that can be securely dated after 545 are the reconstruction of Topirus in Thrace following its capture by the Slavs in 550 (*de Aed.* iv 11.14–17; *Bell.* vii 38.9–23), and of the walls of Chalcis in Syria (*de Aed.* ii 11.1, 8; W. K. Prentice, *Greek and Latin inscriptions, Publications of an American Archaeological Expedition to Syria* iii [New York 1908] nos 305–6).

accession in terms of a *renovatio imperii*,⁸⁹ an image which Justin presumably wished to foster and which could be presented more clearly if Justinian's achievements were obliquely disparaged. A useful reminder that Justin II's propaganda should not be taken at face value is the fact that Justinian had only recently been concerned to promote a similarly grand image of himself through the panegyric works of Procopius and Paul the Silentary. In many respects, Roman affairs were in better condition in 560/1 than they had been in the early 550s, when Procopius had been inclined to criticise Justinian: an end to the long-running Persian war was being negotiated, admittedly at a price but otherwise on terms that were not unfavourable to the Romans since the Persians agreed to renounce their claims to Lazica; in Italy, which had been devastated by two decades of warfare, conditions are likely to have improved gradually following the establishment of peace in 554; in the Balkans, Justinian's diplomacy appeared to have nullified the threat posed by the Cotrigurs, and measures were being taken to improve the security of the countryside. Any of these factors might have encouraged Procopius to revise his opinion of Justinian, so that the composition of a panegyric of the emperor's buildings in 560/1 need not have been an obnoxious task.⁹⁰

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APPENDIX: PERIPHRASTIC OR INCEPTIVE ἄρχομαι AT THEOPHANES 234.15

It has been suggested to me that 'ἄρχομαι often occurs as a kind of auxiliary verb marking the perfective aspect in late Greek', on the authority of H. E. H. Löfstedt *Syntactica*, Acta reg. soc. hum. litt. Lundensis x.2 (1933) 450. Most of Löfstedt's examples are Latin, of *coepi* with verbs of saying (when the phrase indicates an excited tone, or has the force of raising a question), or wishing (of a continuing wish), or movement (over a period of time): in none of these cases is there an obvious perfective force. The only Greek examples cited by Löfstedt are from the *New Testament*, and there is a fuller collection of evidence on ἄρχομαι in J. W. Hunkin '“Pleonastic” ἄρχομαι in the *New Testament*', *JThS* xxv (1923–24) 390–402. It is true that ἄρχομαι can be used in contexts where its inceptive force is diminished and where, in extreme cases, it becomes pleonastic. This tendency is particularly noticeable in *Mark*, where an excessive use of ἄρχομαι results in its decline to the status of a pleonastic auxiliary; in the other synoptic Gospels ἄρχομαι is used much less frequently and it either retains its full inceptive force or 'its presence adds a certain movement and vividness to the narrative' (Hunkin 395). The pure pleonastic use as in *Mark* (also in *Enoch*) is not widespread, and it may indeed have been an Aramaism. The two common usages of ἄρχομαι, as shown for example by the seventh-century *Life* of Theodore of Sykeon, are either with full inceptive force or in contexts where the verb helps to suggest excitement, particularly of speaking or shouting: J. O. Rosenqvist, *Studien zur Syntax und Bemerkungen zum Text der Vita Theodori Syceotae*, Stud. Gr. Upsaliensia xv (1981) 43 n. 9. There is little support for the contention that ἄρχομαι is often used as an auxiliary to mark the perfective aspect.⁹¹

To understand the force of ἄρχομαι in the description of the Sangarius bridge, one must examine the context of the passage and Theophanes' usage of the phrase ἤρξατο κτίζειν. There is no suggestion of excitement here, and so the choice lies between the rarer pleonastic usage and the common inceptive. The context of Theophanes' notice on the bridge does itself suggest an inceptive force for ἄρχομαι, since it records the sequence of construction of the bridge from its inception in a given year through the period of construction to its completion: Justinian *began to build*

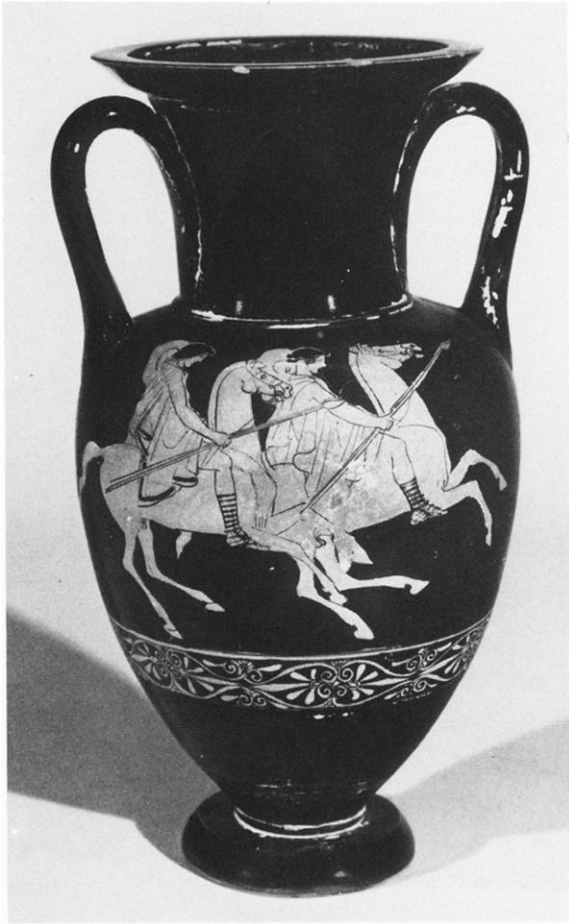
⁸⁹ E.g. Corippus, *In laudem Iustini Augusti minoris* ii 331 ff., with Averil Cameron's nn. *ad loc.* (*op. cit.* n. 24); see also Cameron, *Introd.* 6–7. The financial problems of Justinian's reign, to which Corippus alludes, were caused not by neglect but by Justinian's activities (the major construction projects around Constantinople in AD 558–562, and the substantial peace payment to Persia in 562).

⁹⁰ I am most grateful to Ewen Bowie and Mary Whitby for advice, criticism, and encouragement, to Prof. C. Mango for comments on part I of this article, and to Prof. Averil Cameron for comments on an earlier draft of parts II and III; Prof. Cameron does not

agree with my arguments about the date of *de Aedificiis*.

⁹¹ Although there is a strong tendency for the obliteration of different verbal systems, and for a parallel development of a periphrastic perfect to replace the loss of the distinctive perfect tense, this periphrastic perfect was formed by εἶναι or ἔχειν plus participle (see K. Mitsakis, *The language of Romanos the Melodist*, *Byzantinisches Archiv* xi [Munich 1967] para. 272, and *cf.* 96, 98; *cf.* also A. N. Jannaris, *Historical Greek grammar* [London 1897] paras 1864–5, and S. B. Psaltes, *Grammatik der byzantinischen Chroniken* [Göttingen 1913] para. 345).

the bridge, *and having diverted* the stream . . .; it would be less sensible to say that Justinian *built* the bridge, *and having diverted* the stream. . . . Theophanes' usage of the formula *ἤρξατο κτίζειν* is decisive proof that *ἄρχομαι* possessed its full inceptive force. This formula was used several times by Theophanes in his account of the late sixth century (also at 241.6–7; 243.10–14, 17–19; 244.7–10; 251.16–17). It is noticeable that in this section Theophanes (or his source) did try to distinguish between different building activities: *ἀνεπλήρωσε* for the completion of buildings (261.16; 267.30), *ἀνενέωσε* or *ἀπεκατέστησε* for restoration (251.17; 243.21), *προσέθηκε* for additions (244.10), and *ἔκτισε* as a general word denoting something less than complete construction (e.g. 244.1; 248.2; 250.8), in addition to the separate category of *ἤρξατο κτίζειν*. Theophanes' readers regarded these words as indicating different types of building work, as is shown by the care with which the ninth-century translator Anastasius Bibliothecarius rendered these terms into Latin. The precise force of *ἤρξατο κτίζειν* is demonstrated by comparison of Theoph. 251.16 and 261.16: the first records that Tiberius began the construction of a bath at Blachernae, *ἤρξατο κτίζειν*. . . ., whose completion is recorded in the second, *ἀναπλήρωσε καὶ τὸ ἐν αὐτῷ δημόσιον λουτρόν*. Further support is provided by a parallel notice, Theoph. 267.29–31, which records the completion by Maurice in the eighth year of his reign of the church of the 40 Martyrs, which had been begun by Tiberius, *ἣν ἀπήρξατο κτίζειν Τιβέριος*. There can be no doubt that Theophanes intended his notice of the Sangarius bridge to record its start, not its completion.



(a) Attic red-figure 'Nolan' amphora. Oxford, Ashmolean Museum.



(b) Greek silver *hydria*. Oxford, Ashmolean Museum.



(c) Apse at east end of bridge.

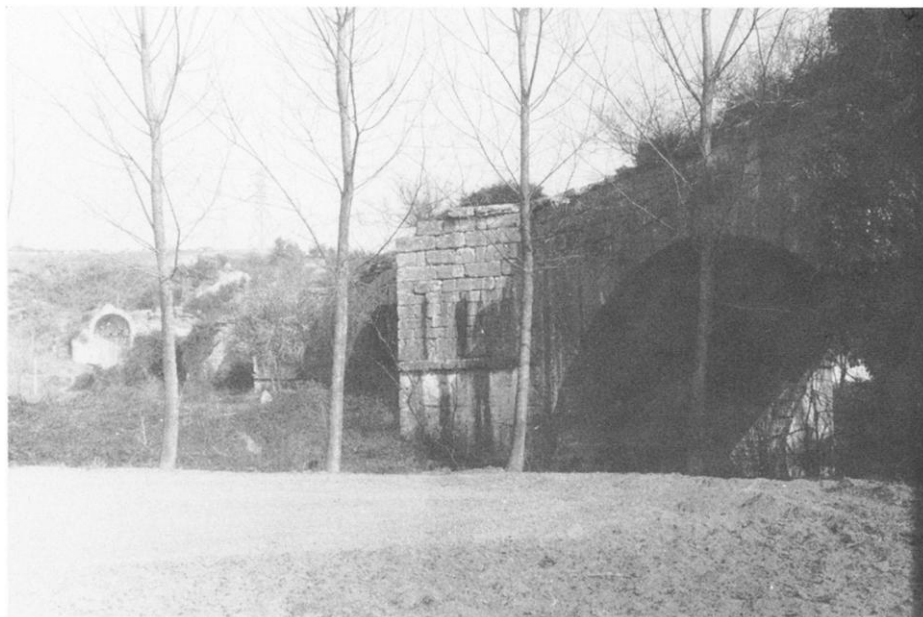


(d) Breakwater from south.



(e) First phase vaults from west.

(a)-(b) METALWORK AND ATHENIAN PAINTED POTTERY
(c)-(e) THE SANGARIUS BRIDGE AND PROCOPIUS



(a) North side of bridge looking east.



(b) South side of bridge looking west.



(c) Second phase vaults from east.



(d) Middle pier of vaulting, showing join of first phase (with cornice) and second phase (with water channel).