

This is an extract from:

*The Economic History of Byzantium:
From the Seventh through the Fifteenth Century*

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Published by

*Dumbarton Oaks Research Library and Collection
Washington, D. C.*

in three volumes as number 39 in the series

Dumbarton Oaks Studies

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Trustees for Harvard University

Washington, D.C.

Printed in the United States of America

www.doaks.org/etexts.html

Land and Sea Communications, Fourth–Fifteenth Centuries

Anna Avramea

The principle that the active and coordinated collaboration of nature and man is an essential requirement for the creation of a network of communications is of fundamental importance. Furthermore, when the objective is the construction of roads, people usually revert to the alignments and routes of the past. The Byzantines inherited and used the well-organized system of Roman roads dating from earlier times, adapting it to the requirements of their own period. They also lived, fought, and traded at sea—a natural extension of the land and an element of cohesion in the empire. In the days of its greatest glory, the Byzantine Empire unified and administered vast tracts of land linked by sea. Constantinople, in its geographic position, was a further expression of this duality of land and sea.¹ The city stood close to the strategically vital axis that linked Europe and Asia—the valley of the Danube with that of the Euphrates—and at the point where that major diagonal land route intersected with the Mediterranean/Black Sea marine axis. Its position was thus decisive for the directions and routes of communications by road and water. Whoever was master of Thrace and the roads that led to the capital could control the flow of supplies to it overland, but in order to starve the city into surrender one would also have to control communications by sea.²

Over the centuries-long history of the empire, great variety can be seen in the structure of roads, and this flexibility involved adaptation to both the terrain and local techniques. Certain sections of road arteries or sea routes can be observed falling into disuse or being revived; such phenomena can be interpreted in connection with the shrinkage, disappearance, or development of the urban centers linked by the routes in question. Land and sea routes to secure communications are, therefore, among the most variable and complex components in our picture of the empire: they alter, are

This chapter was translated by John Solman.

¹ Prokopios, *Buildings*, 1.5.13, in *Procopii Caesariensis Opera omnia*, ed. J. Haury and G. Wirth, 4 vols. (Leipzig, 1962–64), 4:29: ὥστε ἀμέλει ὁρμιζομένης ἐνταῦθα νηὶς ἢ μὲν πρύμνα τῇ θαλάσσῃ ἐπῆρται, ἢ δὲ πρῶρα ἐν τῇ γῇ κάθεται.

² J. Durliat, “L’approvisionnement de Constantinople,” in *Constantinople and Its Hinterland*, ed. C. Mango and G. Dagron (London, 1995), 26.

abandoned, or come back into use following the ebb and flow of political and military events, of economic conditions, in a word, of history. In most cases, however, we should not expect to find major changes in the alignment of the main roads and important sea routes. These remain stable and resistant to change, a constancy that is a feature of areas with a dense road network. Changes can be identified more frequently in connection with the functioning of the urban centers than with the alignment of land and sea routes.

Land Communications: Organization, Changes, Itineraries, Road Maps

In the case of properly organized roads, constructed by the state, the decisions of the authorities, dictated by changing times, altered the infrastructure and the directions taken. The construction and surfacing of roads and bridges, the erection of signs, and the setting up of stations where travelers could obtain fresh animals, spend the night, eat, bathe, and often engage in trade were the principal features of the organization and infrastructure of road communications. These were the properly organized roads that travelers had to use for their convenience and safety.³ Where military purposes were concerned, too, it was essential that the state of the road along which the troops were to march be known; as Constantine VII Porphyrogennetos put it, it was necessary to know “which road is narrow and steep and dangerous, and which is easy to travel along.”⁴ Saints, on the other hand, often turned aside from the usual way in search of quiet, taking roads that were “untrodden and lonely.”⁵ Apart from the road network that linked the various areas (isolated or otherwise), there is also the question of city streets and the role of the institutional forces (bishops, or citizens discharging their duties to the community) as they acted within the framework of the urban functions of the early Byzantine period.⁶

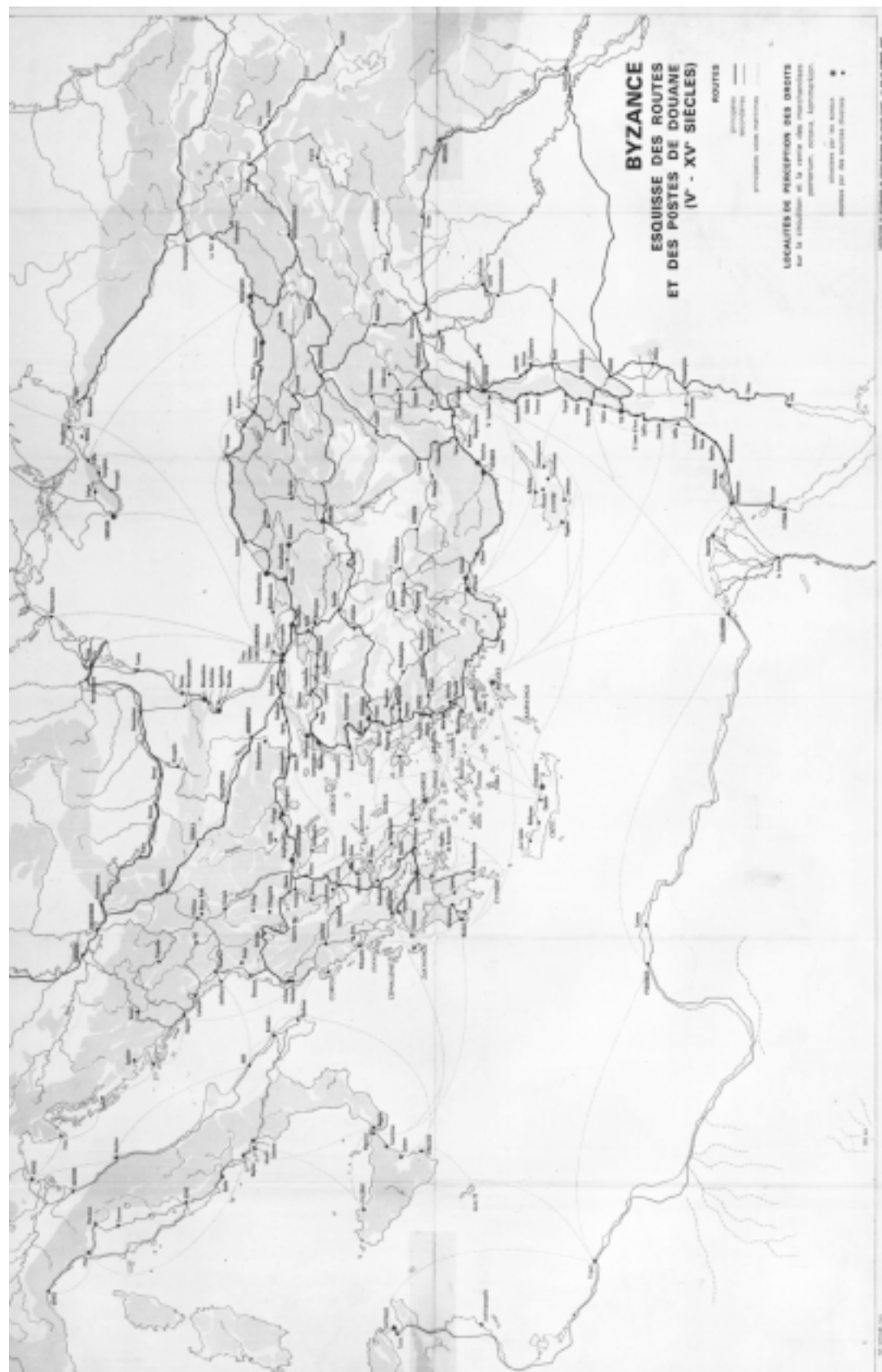
Our knowledge of the organization and functioning of the communications service and the imperial post (the *cursus publicus* or *demosios dromos*) comes from imperial legislation. The service was divided into the *cursus clabularis* (*platys dromos*), which dealt with the movements of tax in kind (the *annona*), weapons and military clothing, soldiers’ families, and bishops on their way to ecumenical synods, and the *cursus velox* (*oxys*

³ Life of St. Stephen the Younger, PG 100:1096–97: Καὶ ὡς αὐθις οἱ τὰς ἐν ἡπείρῳ διατριβὰς ἀσπαζόμενοι . . . οὐ ταῖς ἀγνοουμέναις ἀτραποῖς σφᾶς αὐτοὺς ἐμπιστεύουσι, τὸν ἀπὸ τῆς πλάνης δεδιότες φόβον καὶ τῶν λητῶν τοὺς λόχους ἀγωνιώντες, ἀλλὰ ταῖς λεωφόροις κεχηρημένοι σὺν ἀσφαλείᾳ πολλῇ (M.-Fr. Auzéry, *La Vie d’Etienne le Jeune* [Aldershot, 1997], 109).

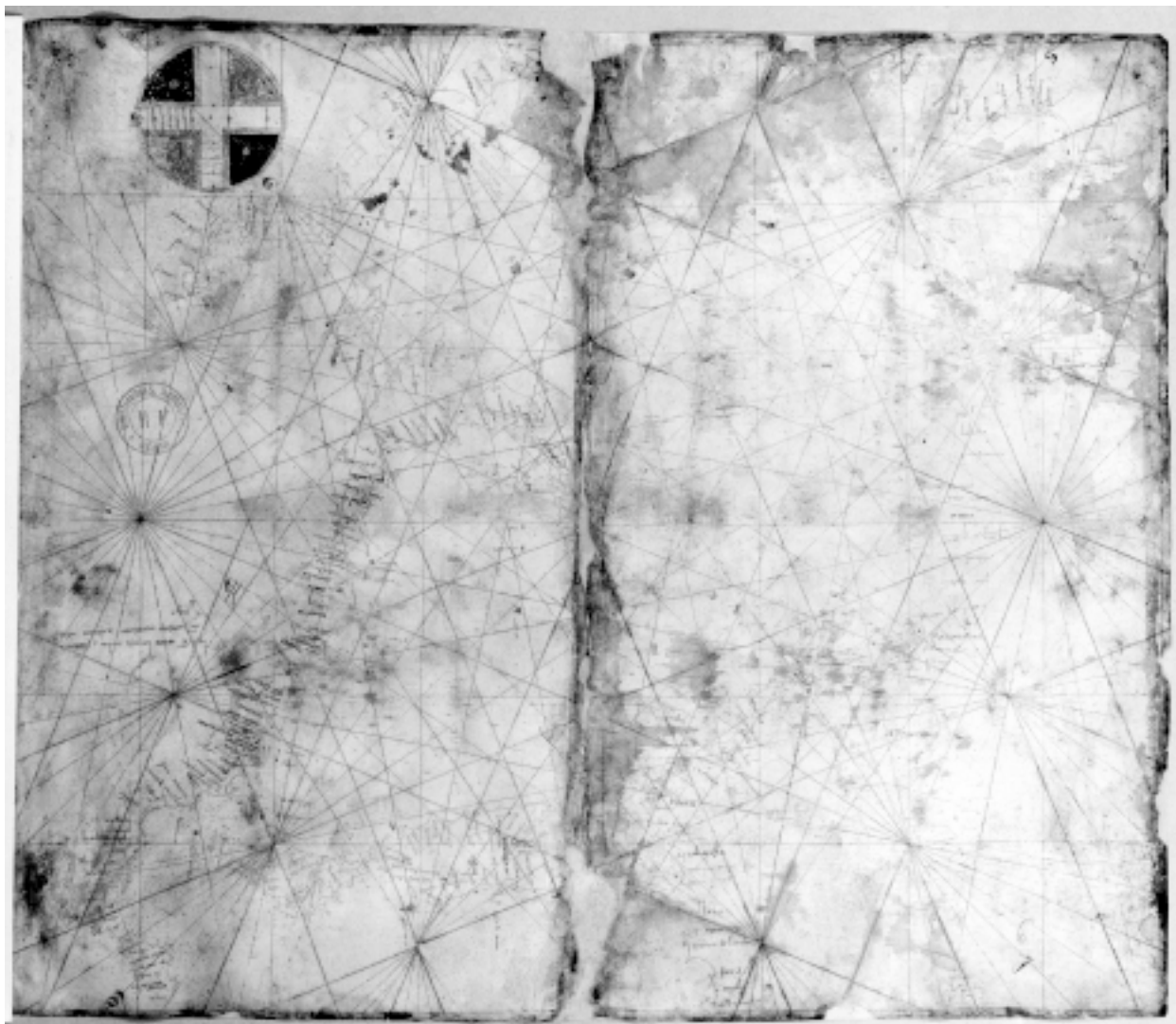
⁴ ποία ὁδὸς ἐστὶ στενόχωρος καὶ κρημνώδης καὶ ἐπικίνδυνος καὶ ποία πλατεῖα καὶ εὐδιάβατος . . . : J. F. Haldon, *Constantine Porphyrogenitus: Three Treatises on Imperial Military Expeditions*, CFHB 28 (Vienna, 1990), 82.

⁵ ἀτριβεῖς καὶ μονίους . . . : Life of St. Constantine the Jew, AASS, Nov. 4:635.

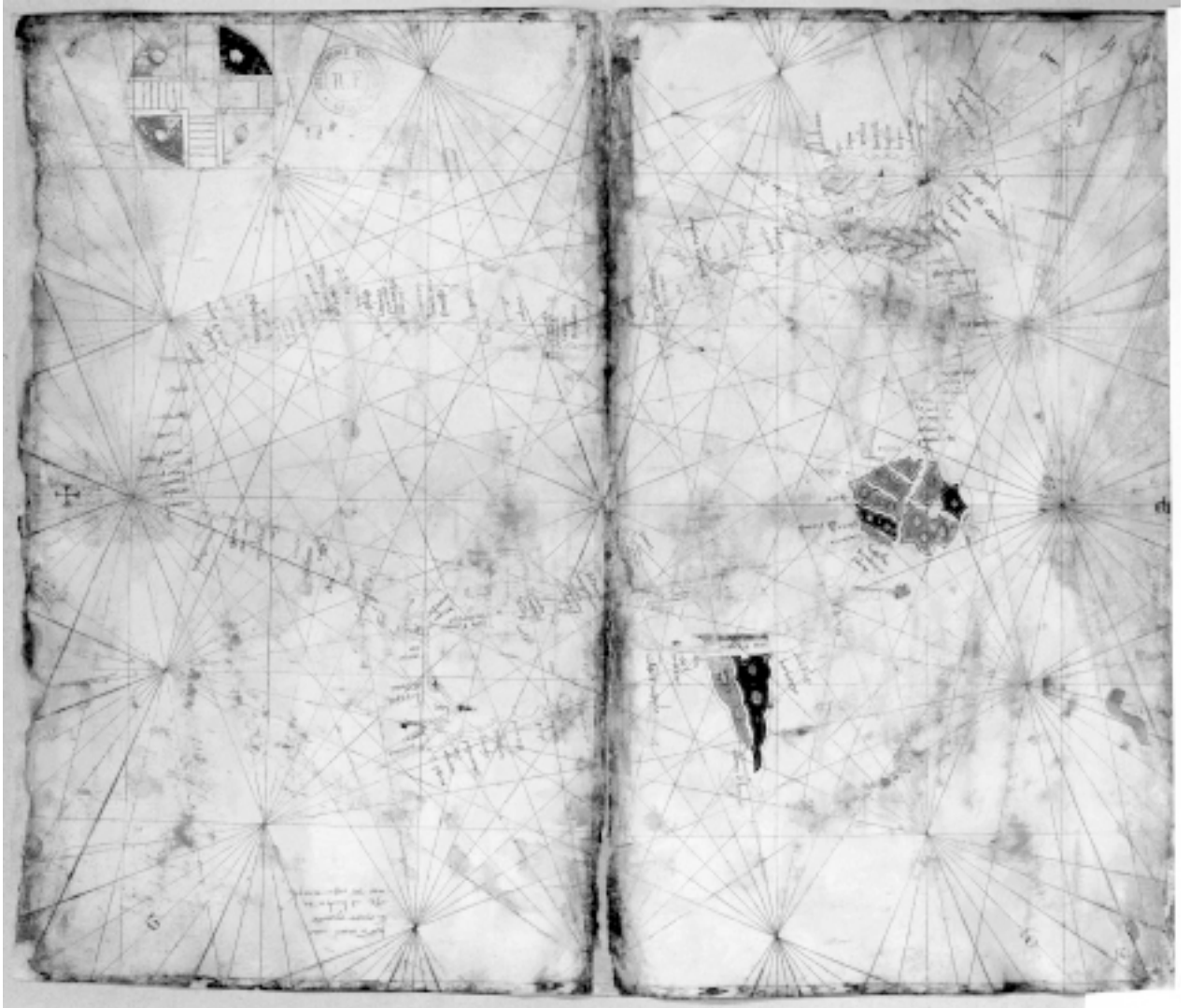
⁶ In Ankyra, a certain John was honored as “benefactor of the land” (εὐπάροχος τῆς πατρίδος), because he had constructed a road near the city: S. Mitchell, “Inscriptions of Ancyra,” *AnatSt* 27 (1977): 91–92. The ἐλλογιμώτατος σχολαστικός and πατὴρ πόλεως of Tarsos oversaw the construction of roads: CIG 3:4438; G. Dagron and D. Feissel, *Inscriptions de Cilicie* (Paris, 1987), 215–16. In Asia Minor, Bishop Paulos supervised the erection of a bridge: W. M. Ramsay, “Inscriptions de la Galatie et du Pont,” *BCH* 7 (1883): 22, no. 11.



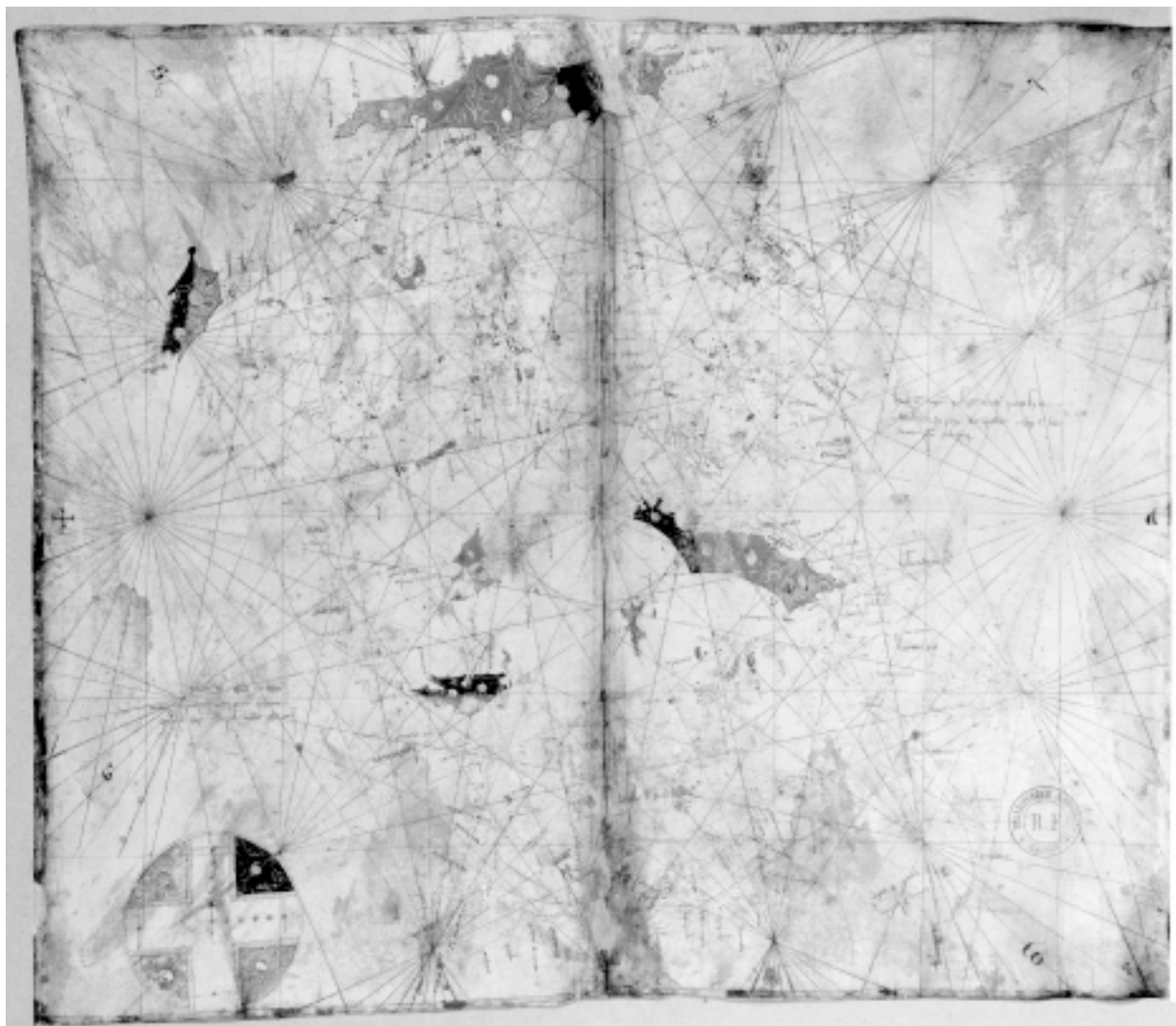
1. Routes and toll and customs stations (after H. Antoniadis-Bibicou, Recherches sur les douanes à Byzance [Paris, 1963])



2. The Atlas of Petrus Visconte, 1313 (after M. Mollat du Jourdin and M. de la Roncière, *Les portulans: Cartes marines du XIIIe au XVIIe siècle* [Paris, 1984], pl. 3)



3. The Atlas of Petrus Visconte, 1313 (after Mollat du Jourdin and De la Roncière, *Les portulans*, pl. 2)



4. The Atlas of Petrus Visconte, 1313 (after Mollat du Jourdin and De la Roncière, *Les portulans*, pl. 4)

dromos), which provided state-owned mounts for public messengers, foreign ambassadors, officers on active service, and shipments of tax in gold. A significant number of large, well-organized way stations (*mansiones*) and smaller stops where fresh horses could be obtained (*mutationes*) had been opened along the main road arteries.⁷

The reform in the functioning and organization of the *demosios dromos* that took place in the time of Justinian, in the form of consular decrees issued by John of Cappadocia, is known to us from the sources. Prokopios describes the reform and relates that prior to it there were between five and eight stations on what would be the length of a day's march for "an active man" (εὐζώνου ἀνδρός). At each station there were forty horses, making it possible to cover ten days' march in one. This enabled those who lived in the hinterland to sell their crops and pay their taxes. Prokopios then goes on to complain that when Justinian closed the station at Dakiviza, on the road from Chalcedon to Nikomedeia, he compelled those traveling from Constantinople to Bithynia to make their way by sea (ναυτίλῃσθαι), while throughout the east (ξύμπασαν ἔω), as far as Egypt, the emperor had slowed down movement along the *demosios dromos* by replacing the horses with donkeys, leaving untouched only the operation of the road that led to the frontier with Persia.⁸ A similar passage in John Lydos also notes that the earlier manner in which the *demosios dromos* was organized had been done away with, especially in the *dioikesis* of Asia. The abolition of the stations had disastrous results for the farmers who had sold their products there, and those who lived far from the sea found it impossible to transport their goods for sale.⁹ It is in conjunction with these reforms of the *cursus publicus* that G. Dagron interprets the *Diatagma peri kataboles synetheion* to the *curiosi* of Seleucia in Pieria (6th century) and the strengthening of communications by sea.¹⁰

In the Byzantine period, the services of the *dromos* or *oxys dromos* were controlled by the logothete of the *dromos*, a post first mentioned in the sources in 760; with his staff, he was responsible, among other things, for maintaining the road network and operating the imperial postal service. The *strateia* of the *dromos* and the functioning of the corvée system in general were in the hands of the *chartoularioi* of the *dromos*, who made sure that the stations were equipped with animals and staffed, and who looked after the maintenance of the roads.¹¹ The earlier distinction between the *cursus clabularis*

⁷ A. H. M. Jones, *The Later Roman Empire, 284–602* (London, 1964), 2:830–34; A. Demandt, *Die Spätantike* (Munich, 1989), 346–48; M. Hendy, *Studies in the Byzantine Monetary Economy c. 300–1450* (Cambridge, 1985), 73, 81, 99–100, 294–96, 311, 602–13.

⁸ Prokopios, *Secret History*, Haury-Wirth ed., 3:180–83.

⁹ Ioannis Lydi *De magistratibus populi Romani libri tres*, ed. R. Wünsch (Stuttgart, 1967), 3.1: 151; cf. M. Hendy, "Economy and State in Late Rome and Early Byzantium: An Introduction," in *The Economy, Fiscal Administration and Coinage of Byzantium* (Northampton, 1989), 1:1–23.

¹⁰ G. Dagron, "Inscriptions inédites du Musée d'Antioche, II: Un tarif des sportules à payer aux *curiosi* du port de Séleucie de Piérie (VIe siècle)," *TM* 9 (1985): 435–55.

¹¹ N. Oikonomides, *Les listes de préséance byzantines des IXe et Xe siècles* (Paris, 1972), 311–12; A. Stauridou-Zaphraka, "Η ἀγγαρεία στὸ Βυζάντιο," *Βυζαντινά* 11 (1982): 21–54; A. Dunn, "The *Kommerkiarios*, the *Apotheke*, the *Dromos*, the *Vardarios* and the *West*," *BMGS* 17 (1993): 3–24; J. Nesbitt and N. Oikonomides, eds., *Catalogue of Byzantine Seals at Dumbarton Oaks* (Washington, D.C., 1991), 1:1.5.

and the *cursus velox* does not seem to have survived into the Byzantine period, as was once believed.¹² From the sources, and especially from the lead seals, we know of the functions of the *dromos tes Dyseos*, the West Road, which served the European provinces apart from Macedonia and Thrace, and of the East Road, the Armeniac Road, the Thracian Road, and the Melania (Malagina) Road (respectively, the *dromos ton Anatolikon, ton Armeniakon, tes Thrakes*, and *ton Melanion*), also leading east.¹³

Although we know how the services of the *oxys dromos* were organized, it is difficult to trace its course in geographical terms. Michael Psellos says that in both east and west there were stations and stables, with four or six “fast beasts of burden” at each.¹⁴ A letter by the same author refers to the publicly owned horses as κόντουρα εἰς τὰς ἀλλαγὰς,¹⁵ while a document from the Iveron monastery, dating from 1104, mentions the δρόμος τῶν Κουντούρων in the vicinity of the southern foothills of Mount Pangaion.¹⁶ In the Balkans, in addition to the way stations along the Via Egnatia there were others on the road from the Danube to Thessalonike.¹⁷ In Asia Minor, the public road must have run through Nicaea, Malagina, Dorylaion, Caesarea, and Melitene or have headed south into Syria through the Cilician Gates.¹⁸ This would have been the road taken by the *koubikoularios* Samonas, who at his own expense and using his own horses—judging “the public horses at each change” to be useless—fled to the Arabian border in 904.¹⁹ From Ibn Hawqal, writing in the late tenth century, we know the stations on the road from Kamacha to Constantinople via Charsianon, Nikomedeia, and Chalcedon, and he also describes the road from Constantinople to Melitene.²⁰ Anna Komnene states that the Latins, with their Roman army, captured Antioch “along the so-called *oxys dromos*,”²¹ that is, through the valley of the Orontes.

There are also references in the sources to the “public road” (δημοσία ὁδός) near Kotyaion in Phrygia,²² the “public way of the imperial road” (δημοσία στράτα τοῦ βασιλικοῦ δρόμου),²³ the “imperial road” (βασιλικὸς δρόμος) in Macedonia,²⁴ and the

¹² By V. Laurent, *Le corpus des sceaux de l'Empire byzantin*, vol. 2, *L'administration centrale* (Paris, 1981), 195–262. On this question, see Hendy's objections in *Studies*, 608 n. 238.

¹³ B. Koutava-Delivoria, “Les 'Οξέα et les fonctionnaires nommés τῶν ὀξέων: Les sceaux et les étoffes pourpres de soie après le 9ème siècle,” *BZ* 82 (1989): 184 n. 53.

¹⁴ Michael Psellos, “Ερμηνεῖαι εἰς κοινολεξίας, 3, Εἰς τὴν φωνὴν τὴν λέγουσαν, Σήμερον τὰ ἄγια κόντουρα,” in *Μεσαιωνικὴ Βιβλιοθήκη*, ed. K. Sathas, 7 vols. (Venice–Paris, 1872–94; repr. Athens, 1972), 5:532.

¹⁵ *Ibid.*, 370: ὅπως διορίσῃται καὶ στήσουσι κόντουρα εἰς τὰς ἀλλαγὰς τὰς πλησιαζούσας τῷ ἡμετέρῳ καὶ σῶ θέματι.

¹⁶ *Actes d'Iviron*, ed. J. Lefort, N. Oikonomides, and D. Papachryssanthou, *Archives de l'Athos*, 4 vols. (Paris, 1985–95), 2: no. 52, line 200 (hereafter *Iviron*).

¹⁷ See below, note 62.

¹⁸ Hendy, *Studies*, 609.

¹⁹ *Theophanes Continuatus*, ed. I. Bekker (Bonn, 1838), 369; *Georgius Monachus*, ed. I. Bekker (Bonn, 1838), 863–64.

²⁰ Hendy, *Studies*.

²¹ *Anne Comnène, Alexiade*, 11.4.1, ed. B. Leib, 3 vols. (Paris, 1937–45), 3:19.

²² According to the Life of Luke the Stylite: A. Vogt, “Vie de S. Luc le Stylite,” *AB* 28 (1909): 21.

²³ See below, 63–64.

²⁴ *Iviron*, 2: no. 35, line 36.

“public avenue”(δημοσία λεωφόρος) that ran from Thessalonike south into Thessaly,²⁵ while sections of the Via Egnatia at the village of Radolibos²⁶ and near Rhegion²⁷ are described as “the paved roads” (πλακωτὸς δρόμος).

A day’s journey on horseback along the *demosios dromos* covered a distance of 75 km from one station to the next. From the *Life of St. Aberkios*, written in the first years of Christianity and included by Symeon Metaphrastes in his *Menologion*, we learn that the saint and his companions sailed from Brindisi to the Peloponnese in five days and then, “using the public horses” (δημοσίοις ἵπποις χρησόμενοι), took a further eight days to reach Constantinople.²⁸ Apart from the public horses, the state also provided δημόσια ὀχήματα, public carriages. In the reign of Theophilos (829–842), Manuel, *stratelates* of the East, “covertly leaving the city as far as the Gates and riding in public carriages, escaped as far as the defiles of Syria.”²⁹ The central authorities set up “hotels” (ξενοδοχεῖα) in the cities and at the other points from which the road network could be entered: Nikomedeia, Nicaea, the Sangarios River, the Gates (Pylai), and Lopadion.³⁰

Unless one were to use the facilities provided by the *demosios dromos*, overland travel was a slow business. It has been calculated that beasts of burden—camels and donkeys—moved at a person’s walking rate, and oxen were capable of no more than 3.2 km per hour.³¹ Carts drawn by pairs of oxen were used by monks to transport wheat and other goods at Katabolon in the Propontis in the ninth century.³² In 787 the holy fathers traveling to the Seventh Ecumenical Council at Nicaea in Bithynia “rode horses and mules, served by slaves and post horses.”³³ According to a letter from Theodore of Stoudios in 797, he and his companions, riding horses “such as chanced to them” (ἐφ’ οἷς ἔτυχε ζώοις), covered a distance of approximately 40 km in two days,³⁴ that is, 20–25 km a day. An army on the march would cover some 24 km per day from station to station.³⁵

The Byzantines measured distances in miles (also called σημεῖα, *semeia*) in days, and

²⁵ *Alexiade*, 5.5.3, Leib ed., 2:24.

²⁶ *Iviron*, 2:48, 51, 53.

²⁷ See below, 68–69 n. 90.

²⁸ *Life of St. Aberkios*, ed. T. Nissen (Leipzig, 1912), 37, PG 115:1233.

²⁹ Λάθρα τῆς πόλεως ἐξελθὼν μέχρι Πυλῶν καὶ τοῖς δημοσίοις ὀχήμασιν ἐπιβὰς ἀπῆλθε φυγὰς μέχρι τῶν κλεισούρων Συρίας . . . : *Georgius Monachus*, 796.

³⁰ See below, 73.

³¹ Jones, *Later Roman Empire*, 2:842.

³² *Life of Eustratios*, *Analekta Hierosolymitikes Stachyologias*, ed. A. Papadopoulos-Kerameus (Brussels, 1963), 4:387.

³³ ἦγοντο ἵπποις, ἡμίονοις, ἀνδραπόδοις καὶ βερέδοις ὑπηρετούμενοι: *Life of Theophanes of Sigriane*, in Theophanes, *Chronographia*, ed. C. de Boor, 2 vols. (Leipzig, 1883–85), 2:9–10 (hereafter Theophanes).

³⁴ *Theodori Studitae Epistulae*, ed. G. Fatouros, 2 vols. (Berlin–New York, 1992), 1:15, no. 3. See the comments of J.-C. Cheynet and B. Flusin, “Du monastère ta Kathara à Thessalonique: Théodore Stoudite sur la route de l’exil,” *REB* 48 (1990): 204.

³⁵ G. Dagron and H. Mihăescu, *Le traité sur la guérilla (De velitatione) de l’empereur Nicéphore Phocas*, 963–969 (Paris, 1986), 79.

in *stadia* (1 mile = 7.5 *stadia*). Ordinals such as “second” (δεύτερον), “fifth” (πέμπτον), or “ninth” (ἐνάτον) were used to indicate the distance in miles from an urban center. The Roman practice of marking distances in miles on pillars (*miliaria*) was not continued in the Byzantine period, though it is mentioned in the sources, where the markers are called “points” (σημεῖα), “boundaries” (ὄροι), or miliasms (μιλιασμοί).³⁶ In some cases, prayers were inscribed upon the *miliaria*, and this “Christianization” of the roads was further emphasized by the practice of erecting crosses on columns at crossroads.³⁷

The frequent and detailed references to the construction or renovation of roads and bridges found in early Byzantine times, and especially in Prokopios in connection with the reign of Justinian, become much rarer in the later period. Roads and bridges were usually constructed for military purposes. The road at Sardis, in the valley of the Hermos, was constructed by the troops of Constans II around 660; it was paved and had a width of some 15 m; the fortifications were repaired at the same time.³⁸ It was also as part of military operations that the bridge near Bizye in Thrace was repaired by Constantine V and his sons in 773/4.³⁹ A hagiographical text of the late sixth or early seventh century mentions that the inhabitants of the village of Bouzaia in Gordiane built a bridge over the Tembros for their own convenience and that of travelers,⁴⁰ while the *Life of St. Lazaros of Mount Galesion* informs us that in the vicinity of this monastery dwelt craftsmen who were skilled in the building of roads.⁴¹ We know little about the state of the old roads and bridges or of how far they were capable of use. In the eleventh century, the roads from Caesarea in Cappadocia to the nearby towns were in good condition.⁴² It was across the bridge over the Barbyssos (or Bathysros) River, which flowed into the Keratios, that Herakleios entered Constantinople in 638, after crossing from Asia Minor to the European shore of the bay of Phidaleia.⁴³ This bridge, which had collapsed, was repaired by Basil I,⁴⁴ and the same emperor repaired the bridge at Rhegion.⁴⁵ The bridge over the Sangarios River, constructed by Justinian, was still a notable sight in the tenth century, according to Constantine VII.⁴⁶ Another bridge, of

³⁶ Eustathios of Thessalonike, PG 136:565: πολλοὶ γὰρ ὄροι καθὰ καὶ μιλιασμοὶ καὶ λίθοις παρασημειοῦνται εἰκαίοις ἀνεστηκόσι, καὶ κίοσιν εὖ ἀποξεσμένοις καὶ βεβηκόσι ἐπ’ ἀσφαλούς καὶ πλατύτητι ἀβακίων ἐκ μαρμάρων οἷς καὶ γράμματα ἐκτετύπωνται. See Ph. Koukoules, *Βυζαντινὸν Βίος καὶ Πολιτισμὸς* (Athens, 1948–57), 4:335.

³⁷ D. Feissel, “Bulletin épigraphique,” *REG* 104 (1991): 725; Koukoules, *Βίος*.

³⁸ C. Foss, *Byzantine and Turkish Sardis* (Cambridge, Mass., 1976), 58; C. Morrisson, “Byzance au VIIe siècle: Le témoignage de la numismatique,” *Βυζάντιον: Ἀφιέρωμα στὸν Ἀνδρέα Στράτο*, ed. N. A. Stratos (Athens, 1986), 1:163.

³⁹ See below, note 72.

⁴⁰ *Vie de Théodore de Sykéon*, ed. A.-J. Festugière (Brussels, 1970), chap. 43, 38.

⁴¹ *AASS*, Nov. 3:512: καίοντες τὰς πέτρας καὶ μετὰ ὄξους βρέχοντες εἶτα καὶ σιδηροῖς λατομούντες ὁργάνοις, ἐποίησαν ὁδὸν εὐθείαν.

⁴² J. L. Teall, “The Grain Supply of the Byzantine Empire, 330–1025,” *DOP* 13 (1959): 126.

⁴³ *Nikephoros, Patriarch of Constantinople, Short History*, ed. C. Mango (Washington, D.C., 1990), § 25, lines 8–10.

⁴⁴ *Theophanes Continuatus*, 340.

⁴⁵ *De Administrando Imperio*, ed. G. Moravcsik and R. J. H. Jenkins (London–Washington, D.C., 1962–67), 51 (hereafter *DAI*).

⁴⁶ *De Thematibus*, 1.4.23–24, ed. A. Pertusi (Vatican City, 1952), 70; cf. T. Loungis, “Παραδείγματα ἔργων ὁδοποιῆας στὸ Βυζάντιο,” *Δίπτυχα* 6 (1994–95): 41.

a later Byzantine period, was identified by J. Lefort in what is now the bed of the river.⁴⁷ The road that linked Bithynia and Phrygia, described in detail by Prokopios,⁴⁸ may be the same as that mentioned by Anna Komnene.⁴⁹ The rare references to the state and passability of a road include that by Theophanes to the march of Herakleios in 628 and the road leading to Syria via Tauros. As the chronicler notes, this road was chosen even though it was steep and snow covered because “it provided an abundance of food that was easy to obtain.”⁵⁰

In the early Byzantine period, especially after the fourth century (with the barbarian raids and, in particular, the founding of Constantinople), a more general need emerged for a knowledge of the world: for travel, itineraries, and cartographic descriptions. To the political and economic incentives was now added the desire of the pilgrims of the new Christian world to travel east to the Holy Land.⁵¹ The *itineraria*, compiled in Latin, were works designed to provide assistance on these journeys; they recorded a network of itineraries over a vast area and listed the cities and stations on the routes that crisscrossed the empire, together with the distances between them.

The *Itinerarium* of Antoninus deals with the land and sea routes from western into eastern Europe, from Gadeira to Caesarea in Palestine and from the Crimea to Alexandria. It must have taken its final form between 280 and 290 and been based on the figures provided by the department responsible for the *cursus publicus*. The *itinerarium* dealing with the route from Bordeaux to Jerusalem records the towns, stations (*mansiones*), and points where horses could be changed (*mutationes*), and was drawn up in 335.⁵² In the Byzantine period, the principal catalogue of such information is the *Cosmography* of the Anonymous of Ravenna, written in Latin between 600 and 700 on the Roman model for written itineraries. It contains 5,000 geographical names arranged in geographical order from west to east.⁵³

These Roman *itineraria scripta* were closely associated with the production of road maps. According to the military manual of Vegetius (383–395), military commanders ought to be equipped with *itineraria* giving extensive details of all the areas in which the war was to be fought, enabling them to become familiar with the terrain and to know the distances involved, the state of the roads, any forks and side-turnings in them, the rivers, and the mountains. This report suggests that soldiers possessed *itineraria* that not only were written (*scripta*) but also contained drawings in color (*picta*). Only one such “illustrated” map has survived to the present day, the well-known road map called the *Tabula Peutingeriana* (cod. Vindob. 324), prepared in order to show the roads of the empire over a total distance of 104,000 km. The original map was com-

⁴⁷ J. Lefort, “Les communications entre Constantinople et la Bithynie,” in Mango and Dagron, *Constantinople and Its Hinterland* (as above, note 2), 216.

⁴⁸ Prokopios, *Buildings*, 5.3.12, Haury-Wirth ed., 4:155.

⁴⁹ *Alexiade*, 15.4.4, Leib ed., 3:201.

⁵⁰ εὐπορίαν τε καὶ δαψίλειαν τῶν τροφῶν παρεῖχεν: Theophanes, 1:312.20–21.

⁵¹ P. Maraval, *Lieux saints et pèlerinages d'Orient—Histoire et géographie: Des origines à la conquête arabe* (Paris, 1985).

⁵² *Itineraria Romana*, vol. 1, *Itineraria Augusti et Burdigalense*, ed. O. Cuntz (Leipzig, 1929).

⁵³ *Itineraria Romana*, vol. 2, *Ravennatis Anonymi Cosmographia et Guidonis Geographica* (Leipzig, 1940); L. Dillemann, “La carte routière de la Cosmographie de Ravenne,” *BJ* 175 (1975): 165–70.

piled between 335 and 366, but it was based on older sources and on information provided by the *cursus publicus* office. It also contains subsequent additions.⁵⁴ These *itineraria* (both *scripta* and *picta*), archaeological finds, and especially the written sources help in reconstructing the road network.

The Balkans

The physical morphology of the Balkans is notable for a duality: although it contains elements of discontinuity and fragmentation, there are also features that foster unity and communication. While the mountain massifs and high plateaus discourage movement, valleys and places where the ground has subsided—often along the course of the rivers, which in many cases are navigable—make it possible for one place to develop links with others.⁵⁵

The geographical position and physical structure of the area were the basic factors on which the effort to reconstitute the channels and passages of communication and the network of roads relied. The roads driven along the natural passes through the mountain massifs toward the plains, where they led to urban centers, could be divided into two types: access roads (to be used by the army in time of war and traders in peacetime) and roads for internal communications.

The major landmarks in the political history of the Balkans determined the potential for control over these road arteries, for interruptions and for communication in the form of trade agreements between the opposing sides. After the sixth and early seventh centuries, a significant role was played by Avar and Slav raids and by the settlements of Slavs. The founding of the first Bulgarian Empire in 681 in the region between the Danube and Mount Haemos, the wars between Byzantium and the Bulgars in the eighth, ninth, and tenth centuries, the reconquest by the Byzantines of the area south of the Danube in 971, and the overthrow of the first Bulgarian state in 1018 are the most important dividing lines. After the twelfth century, the Serbs took over the dominant role in the Balkans and retained it until the Turkish conquest of the fifteenth century.

Although the settlements of foreign peoples, and wars against them, interrupted communications along the main road arteries that ran northwest-southeast, north-south, and east-west across the Balkans, the trade agreements concluded by the Byzantines did much to facilitate commerce and the movement of people and goods. The treaties of 716 and 815 between Byzantium and Bulgaria made it possible for the Bulgarian hinterland up to the Danube to communicate with the Aegean and Thessalonike, the city where the trade routes ended. Communications along the rivers made transport easier, while the establishment of the *vardarios* and the presence, in the ninth

⁵⁴ K. Miller, *Itineraria Romana* (Stuttgart, 1916); A. and M. Levi, *Itineraria picta: Contributo allo studio della Tabula Peutingeriana* (Rome, 1970). For all the *Itineraria* (*scripta* and *picta*), see O. A. W. Dilke, "Itineraries and Geographical Maps in the Early and Late Roman Empire," in *The History of Cartography*, ed. J. B. Harley and D. Woodward (Chicago–London, 1987), 1:234–57.

⁵⁵ J. Cvijić, *La péninsule balkanique* (Paris, 1918).

century, of *kommerkiarioi* in cities such as Adrianople and Didymoteichon which had been founded along navigable rivers, confirm the trade of this kind.⁵⁶ Communication along navigable rivers is also referred to in the sources, for example, Kaminiates, who reports that the merchants of ninth- and tenth-century Thessalonike who traded with the Bulgars made use of the rivers.⁵⁷ Athonite documents of the fourteenth century refer to payment of the *poriatikon* charged on travel on the rivers and to the positions at which it was collected.⁵⁸

The “Imperial Road”

The most important diagonal land route through the Balkans, called the “imperial road” (βασιλική ὁδός) by the Byzantines, *carksî pat* by the Slavs and *Stambul yol* by the Turks, ran from northwest to southeast.⁵⁹ This road was the continuation of the great military highway that began on the shores of the North Sea, ascended the valley of the Rhine, passed through Milan, Verona, and Aquileia, reached Poetovio, and then descended the valley of the Drava to cross the Sava River at Sirmion (Mitrovica). Singidunum (Belgrade) was the next stop, after which the road continued along the valley of the Danube through Viminacium (Kostolac), Bononia, and Ratiaria. There it turned south along the valley of the Margos (Morava) to Naissos (Niš) and southeast in the direction of Serdica (Sofia). From Sofia it kept up its southeasterly orientation, traversing the narrow pass of Soukeis—also known as Trajan’s Gate or the *claustra sancti Basilii*—in the western fringes of the Haemos range and the Rhodope Mountains before entering the upper valley of the Hebros (Marica) and continuing along the left bank of the river to Philippopolis. From this point on, the imperial road remained close to the Hebros, sometimes crossing the river and sometimes turning a little aside into the lower slopes of the Rhodope range, running through Klokotnitza and Tzernomianou into Adrianople. From that city, an important crossroads on the road system, it continued in a southeasterly direction toward Nike, Boulgarophygon, and Arkadiopolis, passing Drouzipara (Megalo Karistiran), where there is a sixth-century bridge,⁶⁰ and Tzouroulos into the Propontis at Herakleia (Perinthos).

This major diagonal road artery was the principal axis connecting Constantinople with the West, especially after the center of developments there moved north from

⁵⁶ N. Oikonomides, “Le kommerkion d’Abydos: Thessalonique et le commerce bulgare au IX^e siècle,” in *Hommes et richesses dans l’Empire byzantin*, 2 vols. (Paris, 1989–91), 2:241–48; Nesbitt and Oikonomides, *Catalogue of Byzantine Seals at Dumbarton Oaks*, 1:44.5, 44.6, 50.1; see also A. E. Laiou, “Exchange and Trade, Seventh–Twelfth Centuries,” *EBH* 687–88.

⁵⁷ *Ioannis Caminiatae De expugnatione Thessalonicae*, ed. G. Böhlig (Berlin, 1973); E. Todorova, “River Trade in the Balkans during the Middle Ages,” *EtBalk* 4 (1984): 47.

⁵⁸ I. A. Papangelos, “Ο Πόρος τοῦ Μαρμαρίου. Πόλις καὶ χώρα στὴν Ἀρχαία Μακεδονία καὶ Θράκη,” *Μνήμη Δ. Λαζαρίδη* (Thessalonike, 1990), 333–52, in particular 346–47.

⁵⁹ C. Jireček, *Die Heerstrasse von Belgrad nach Konstantinopel und die Balkanpässe* (Prague, 1877); P. Lemerle, “Invasions et migrations dans les Balkans,” *RH* 211 (1954): 274; C. Asdracha, *La région des Rhodopes aux XIII^e et XIV^e siècles* (Athens, 1976), 30–34; P. Soustal, *Tabula Imperii Byzantini*, vol. 6, *Thrakien* (Vienna, 1991), 132–35.

⁶⁰ G. Lampousiadou, “Ὁδοιπορικόν,” *Θρακικά* 10 (1938): 259–60.

Rome. Used by pilgrims, travelers, merchants, and soldiers alike, its northern sections were severed by the incursions of Arabs, Slavs, and Bulgars. It was the road taken by the westerners in the First, Second, and Third Crusades, and in 1204 the Latins used it to penetrate into the upper valley of the Hebros. The sources often give the distances from one city to the next, and the length of time required to cover them: from Philippopolis to Constantinople, Anna Komnene notes, took two days and two nights; Geoffrey de Villehardouin gives nine days as the length of the same march. The march from Adrianople to Constantinople, according to Attaleiates, could be covered in three days, while in 1433 Bertrandon de la Broquière gives six days as the time required.⁶¹

North-South Roads

The major arteries running the length of the Balkan peninsula may be described as the invaders' roads. These routes set out from the Danube and, running through the largest urban centers and the important road junctions Naissus and Serdica, proceeded parallel to the courses of the major rivers, the Axios (Vardar) and the Strymon (Struma).

The first and most important north-south axis ran from the Danube and the Margos valley down to Naissos and reached the Axios valley at Skopje. From there it went to Stoboi and through the narrow defile of the Axios (the Iron Gates or Demir-Kapi) in the direction of the Aegean, across the plain of Thessalonike. According to Constantine VII Porphyrogenetos, the distance from Thessalonike to Belgrade on the Danube could be covered in eight days by a traveler moving without haste and stopping overnight.⁶² From Skopje, secondary branch roads enabled travelers to bypass the Axios gorge, riding southwest from Skopje through Herakleia Lynkestis (Monastir-Bitlj) or east through Stypaion (Štip) and Tiberioupolis (Strumica) toward Thessalonike.⁶³ This second route is the one described by Nikephoros Gregoras, envoy of Andronikos II to the *kral* of Serbia in 1327, in a letter in which he states that he covered the distance from Strumica to Skopje in three days, and when his party arrived they saw the Axios as "the greatest [river] after the Strymon" and "navigable in some places and at some times."⁶⁴ The Axios is also described by Theophylaktos of Ohrid in a letter dating from 1106. He notes that the river could be crossed neither on foot nor on horseback: there was no bridge because of the "river toll-posts" (ποταμοτελωνεῖα), and the crossing was made on a "small boat."⁶⁵ Kantakouzenos confirms that the Axios was navigable as far as Skopje in the spring, when timber was floated down it.⁶⁶

⁶¹ Asdracha, *La région des Rhodopes*, 49.

⁶² *DAI*, 42, 15–18.

⁶³ For their alignments and routes in Roman times, see the works of the Union Académique Internationale under the titles *Tabula Imperii Romani: Naissus-Dyrrhachion-Scupi-Serdica-Thessalonike*, K 34 (Ljubljana, 1976), and *Tabula Imperii Romani, Philippi*, vol. 1, K 35 (Athens, 1993).

⁶⁴ ναυσίπορος ἐνίστε καὶ ἐνιαχοῦ. *Correspondance de Nicéphore Grégoras*, ed. R. Guiland (Paris, 1927), 43.

⁶⁵ Theophylakt of Ochrida, *Correspondance*, ed. P. Gautier (Thessalonike, 1986), no. 110, 530–31.

⁶⁶ Todorova, "River Trade," 47.

The other important north-south axis also had its starting point on the Danube, running south to Serdica and then following the valley of the Strymon through the *kleisourai* of the Strymon (Roupel) to Serrai and Drabeskos before ending at the important intersection of Amphipolis. In the Byzantine period, the Strymon River in this area was called Marmari, as was the settlement to the north and northeast of the section of ancient Amphipolis lying along the river. Here Gregory Pakourianos founded a *xenodocheion* (hostel) near the bridge, opening another near the west coast of the Strymonic Gulf.⁶⁷ Nikephoros Gregoras describes the way north from Amphipolis and calls the Strymon “very great,” “deep-eddying,” and “impossible to cross” for those on foot or horseback.⁶⁸

The old Roman road called Trajan’s Track also led south from the Danube toward Philippopolis. The sources describe it at the time of the wars against the Avars; this was the road, they tell us, that the *strategos* Komentiolos took in the winter of 599/600 on his way from Novae to Philippopolis—despite the advice of the locals, who informed him that “no one had traveled along it for ninety years” (ἀδιαξόδευτον ἀπὸ ἐτῶν ἐνενήκοντα).⁶⁹

A coastal road linked the major ports on the west coast of the Black Sea. From the Danube estuary, it passed through Tomis (Constanza), Odessos (Varna), Mesembria, Anchialos, Sozopolis, Agathopolis, Thynias (Staniera), and Medeia; from the last two places it headed inland and joined the road leading to Tzouroullous.⁷⁰

Horizontal and Perpendicular Roads

The destinations of the roads that crisscrossed the Balkans in horizontal and perpendicular directions were the major urban centers of the interior. The Varna road set out from the Black Sea and crossed the mountains to Stilvno and then went to Beroe (Stara Zagora) and Philippopolis. The road inland from Anchialos led to Therma, Aetos, and Markellai, with a branch south along the valley of the Tounza River to Hyampolis and Adrianople. This road would also take the traveler to the intersection of Stilvno and southwest to Philippopolis. From Pyrgos (Burgas) and nearby Develtos there was a bridge over the Skaphidas River⁷¹ and the traveler could choose to head west to Hyampolis or south to Adrianople. Another branch of the road led to Saranta Ekklesiai (Kirklareli), Bryse, and Tzouroullous. It was here, though we do not know exactly where, between Bizye and Saranta Ekklesiai in the direction of Lithosoria that Constantine V and his sons renovated a bridge in 773/4.⁷²

The great road along the valley of the Ardas⁷³ ran crosswise through the area and,

⁶⁷ P. Lemerle, *Cinq études sur le XIe siècle byzantin* (Paris, 1977), 151; *ibid.*, C. Asdracha, 179.

⁶⁸ “μέγιστον,” “βαθυδίην,” “ἄπορον”: *Correspondance de Nicéphore Grégoras*, 33, 35.

⁶⁹ Theophanes, *Chronographia*, 1:282; *Theophylacti Simocattae Historiae*, ed. C. de Boor (Leipzig, 1887), 290.

⁷⁰ Soustal, *Thrakien*, 145–46.

⁷¹ *Ibid.*, 444.

⁷² C. Mango and I. Ševčenko, “Three Inscriptions of the Reign of Anastasius I and Constantine V,” *BZ* 65 (1973): 384–93.

⁷³ Asdracha, *La région des Rhodopes*, 34–37.

with its branch roads, linked the hinterland with the Propontis and Constantinople in one direction and Macedonia and the Adriatic in the other. It began at the port of Rhaidestos, passing through Chariopolis and crossing the Regina and Hebros Rivers on its way to Didymoteichon. It then headed northwest, through the mountainous area of Achrido, and ran through a more densely settled area to Nikopolis on the Nestos and on to the valley of the Strymon. A branch of the Ardas valley road led from Mneiakos to Stenimachos, where Gregory Pakourianos founded another “hostel” on two roads,⁷⁴ and then went to Philippopolis. According to Villehardouin, writing in 1206, the journey from Mneiakos to Stenimachos took three days. From the “horizontal” Ardas valley road, at the Adrianople junction, another main road led off to the south down the Hebros valley to Didymoteichon. It continued in a southerly direction, still running parallel to the Hebros valley, to its junction with the Via Egnatia near the river estuary.

The Hebros was not important only for this road artery: the river itself was also a major route for communications.⁷⁵ It was navigable for large vessels as far as Adrianople, where there was also a bridge by which it could be crossed,⁷⁶ and small craft could sail from Adrianople to Philippopolis. Crossings from one bank to the other were made by “light boats” called *akatia*. In 972, according to Leo the Deacon,⁷⁷ the order was given to move grain, animal feed, and weapons to Adrianople on special boats (διὰ σιτηγῶν πλοίων). Edrisi says that the Hebros at Philippopolis could be crossed only by boat. Kritoboulos of Imbros preserves more details, noting that the Hebros was navigable the year round near its estuary, and that when it reached Doriskos on the right bank it flowed into the sea near Ainos, a port on the Aegean. Kritoboulos adds that the Hebros “allows those who live in the city [Ainos] to trade along it, using cargo vessels, with the hinterland and with some of the cities in the interior that lie near the river.”⁷⁸ Near Ainos, in the time of Alexios I Komnenos, a makeshift bridge was constructed over the Hebros by lashing boats to long pieces of wood, and the army passed over it.⁷⁹

The Via Egnatia

When the main roads from the interior turned south, most of them intersected with the Via Egnatia, the important Roman road that ran crosswise through the Balkans and provided communications between the Adriatic, the Aegean, and the Propontis, between Rome and Constantinople. This was the most important road axis in the em-

⁷⁴ Lemerle, *Cinq études*, 151; *ibid.*, Asdracha, 177.

⁷⁵ Asdracha, *La région des Rhodopes*, 45–47; Todorova, “River Trade,” 47.

⁷⁶ *Georgii Acropolitae Opera*, ed. A. Heisenberg, corr. P. Wirth, 2 vols. (Stuttgart, 1978), 1:111; cf. Asdracha, *La région des Rhodopes*, 45 n. 6.

⁷⁷ *Leonis diaconi Caloënsis historiae libri decem*, ed. C. B. Hase (Bonn, 1828), 126–27; see Todorova, “River Trade,” 50.

⁷⁸ παρέχει δὲ καὶ τοῖς ἐν τῇ πόλει δι’ αὐτοῦ πλοίοις φορτηγοῖς τὰς ἐμπορίας ποιεῖσθαι ἕξ τε τὴν μεσόγειαν καὶ τινὰς τῶν ἐν αὐτῇ πόλεων πλησιοχώρους αὐτῶ: *Critobuli Imbriotae Historiae*, ed. D. R. Reinsch (Berlin, 1983), B, 12.2.4: 104.

⁷⁹ *Alexiade*, 8.4, Leib ed., 2:137.

pire; the *cursus publicus* / *demosios dromos* followed it, and it was an extension of the Via Appia from Rome to Brindisi. From that port, travelers crossed by sea to Dyrrachion, Apollonia, and Avlon (they could also sail to Avlon from Hydrous [Otranto]). Dyrrachion and Avlon had since antiquity been the starting points for this important trans-Balkan road, details of whose exact route are better known to us in the early period,⁸⁰ but whose operation—and the breaks in it—can also be traced through the Byzantine period.⁸¹

The leg of the road that set out from Dyrrachion followed the lower course of the Skumbi to the station at Clodiana (modern Pequini). The route from Avlon led to Apollonia and then on to Clodiana. From Pequini, the Via Egnatia headed up the Skumbi valley to Elbasan, passing various stations on the way. Then it ran around Lake Ohrid to the north, entering Macedonia via Strounga and Ohrid and heading toward Thessalonike. We do not know whether this western section of the Via Egnatia held to the same course in the later Byzantine period. Byzantine texts describing military operations in the eleventh century make it possible to argue that there was a road from the Adriatic into Macedonia along a different route, though we do not know precisely what its course may have been. It may well have set out from Dyrrachion and run toward Lake Ohrid via the Devol. According to the anonymous chronicler of the *Gesta Ducis Gotfridi*, the counts of Normandy and Blois landed at Dyrrachion and marched on Thessalonike after crossing the Deavolis (Devol) River. Edrisi confirms the use of this land route, giving the length of the march from Dyrrachion to the Devol as two days, with a further four needed to reach Ohrid. It can be concluded that, although it did not supplant the old route, the road along the valley of the Deavolis was in use in the eleventh and twelfth centuries, and since the time of Basil II there had been military garrisons to control it. Venetian documents of 1161 demonstrate that the road from Dyrrachion to Constantinople was the one that ought to be taken by those carrying money or lightweight but valuable goods (presumably silk).⁸²

From the north shore of the lake, the Via Egnatia followed a route via Ohrid (Lychnidos) and Monastir (Herakleia Lynkestis-Bitolj) before turning at Kleidi, passing Lake Vegoritis and descending the upper valley of the Aliakmon to Pella. From there it crossed the Axios—we do not know exactly where—and the Echedoros (Gallikos) River before arriving at Thessalonike, though it did not run through the city. Travelers wishing to use it to move east had to leave Thessalonike by the West Gate and join the Via Egnatia as it passed close to Lakes Koroneia and Volve before continuing to Apollonia and thence through the narrow defile at Rentina.⁸³

⁸⁰ A bibliography for the Roman and early Byzantine period may be found in A. Avraméa, “Tracé et fonction de la Via Egnatia: Du IIe av. au VIe ap. J.-Chr.,” in *The Via Egnatia under Ottoman Rule, 1380–1699*, ed. E. Zachariadou (Rethymnon, 1996), 3–7. For the route as far as Amphipolis, see *Tabula Imperii Romani*, K 34, and for Amphipolis to the Hebros, see *Tabula Imperii Romani*, K 35, I.

⁸¹ Oikonomides, “The Medieval Via Egnatia,” in Zachariadou, *The Via Egnatia under Ottoman Rule* (as above, note 80), 9–16.

⁸² A. Ducellier, *La façade maritime de l’Albanie au Moyen Age: Durazzo et Valona du XIe au XVe siècle* (Thessalonike, 1981), 76–84.

⁸³ J.-M. Spieser, *Thessalonique et ses monuments du IVe au VIe siècle: Contribution à l’étude d’une ville paléochrétienne* (Paris, 1984), 21–24, fig. 1.

According to Harun Ibn Yahya (late 9th century),⁸⁴ it took twelve days to travel to Constantinople from Thessalonike, the highly important urban center to which all the overland routes in the Balkans and sea-lanes in the Aegean led. The great city of Thessalonike attracted merchants from all over the known world, as we learn from Kaminiates and the twelfth-century satirical dialogue the *Timarion*. Indeed, the latter text informs us that merchandise from the Black Sea was shipped to Constantinople and then traveled overland to Thessalonike carried by great caravans of horses and mules.⁸⁵

After the Rentina pass, the Via Egnatia crossed the lower course of the Strymon at the “Marmari crossing,”⁸⁶ turned inland via Drabiskos, and passed Angista, Symbole, and the north slopes of Mount Pangaion on its way to Philippi, after which it headed south toward the sea again, reaching it at Christoupolis (or Neapolis; modern Kavala). There was also a road—what the ancients had called the “low road”—from Chrysoupolis over the southern slopes of Pangaion and the northern slopes of Mount Symbolon into the plain of Philippi. This must have been the route taken by Gregory of Dekapolis in the ninth century.⁸⁷

After Christoupolis, the Via Egnatia headed northeast, through Akontisma (3 km from modern Nea Karvali) and turned inland to Topeiros, where the Nestos River was crossed. After Xanthe, the traveler would reach Lake Bistonis (Poros) at Peritheorion (Anastasiopolis). The road held its easterly course to Mosynoupolis (Maximianopolis), then headed south-southeast to Makre on the coast. Traces of its surface have survived near the villages of Meste, Komaros, and Dikella. Another branch from Mosynoupolis to Gratianon descended to Makre through the hills. Now the Via Egnatia continued eastward along the coast to Trajanopolis and Bera. Between Trajanopolis and Kypsela, it crossed the Hebros by a bridge somewhere in the vicinity of the villages of Peplos, Kepos, and Gemiste, and a branch road linked Kypsela to the port of Ainos. The last stretch of the route ran through Rousion (Kesane), Malgara, Apros, Rhaidestos, Herakleia, Daonion, Selymbria, Epibatai, Aigialoi, Damokraneia, Athyra (Büyük Çekmece), and Rhegion (Küçük Çekmece) to Constantinople itself.⁸⁸

According to the *Itinerarium* of Antoninus, the road from Herakleia to Constantinople did not take the coastal route, presumably in order to avoid the lagoons at Rhegion. However, the coastal route is described in the *Itinerarium* of Bordeaux.⁸⁹ Prokopios begins his description of the Via Egnatia from the fortress called Strongylon in the suburbs of Constantinople, from which the road led out to Rhegion; since, as he writes,

⁸⁴ A. Vasiliev, “Harun Ibn Yahya and His Description of Constantinople,” *SemKond* 5 (1932): 162.

⁸⁵ *Ioannis Caminiatae De expugnatione Thessalonicae*, 9.5; Ps.-Luciano, *Timarione*, ed. R. Romano (Naples, 1974), 53–55; cf. Laiou, “Exchange and Trade,” *EHB*.

⁸⁶ P. Lemerle, *Philippes et la Macédoine orientale à l'époque chrétienne et byzantine* (Paris, 1945), 172 n. 1; Papangelos, “Ο Πόρος,” 333–52.

⁸⁷ F. Dvornik, *La Vie de saint Grégoire le Décapolite et les Slaves macédoniens au IXe siècle* (Paris, 1926), 54–55. Cf. J. Karayannopoulos, *Les Slaves en Macédoine*, appendix: C. Bakirtzis, *A propos de la destruction de la basilique paléochrétienne de Kípia (Pangée)* (Athens, 1989), 5–38.

⁸⁸ Asdracha, *La région des Rhodopes*, 25–30; Soustal, *Thrakien*, 136–38.

⁸⁹ C. Mango, *Le développement urbain de Constantinople* (Paris, 1985), 32–33.

the road was “rough” (ἀνώματος), “boggy” (τελματώδης), and “hard to pass” (δυσπάριτος), Justinian had large stones laid so that it was paved and widened it so that two carriages could pass. In addition, he erected a stone bridge at the Rhegion crossing (called Myrmex), replacing the existing wooden structure and thus making it safe to pass.⁹⁰ The bridge was repaired by Basil I.⁹¹ At a much later date, Kritoboulos of Imbros writes of the bridges at Athyra and Rhegion.⁹² The village of Enneakosia, referred to in the *Typikon* of the monastery of Constantine Lips and by Kantakouzenos, was near Rhegion, “below the paved road,” and the “Camel Bridge” (Καμήλου Γέφυρα) was there, too.⁹³ The coast road from Rhaidestos to Ganos is described by George Oinaïotes in the first half of the fourteenth century: from Constantinople he crossed over to Athyra and Damokraneia, stopped at the spot called Aigialoi, went through Epibatai, and reached Selymbria. The distance from Constantinople to Selymbria, totaling some 70 km, took two days to cover. Oinaïotes then traveled on through Daonion and Abydenoi, ending a safe and trouble-free journey at Rhaidestos. The road from Rhaidestos to Ganos, by way of contrast, was hard.⁹⁴

The great imperial, military, and commercial road called the Via Egnatia was rendered inoperative from time to time as the result of invasions, and the various sections of it, especially in the west, were not used equally. Some interruptions in its use are specifically mentioned in the sources; we may assume that some of them came about because travelers preferred to travel by sea from one coastal city to another, thus avoiding the difficulties of the land route. As early as the late fourth century, the west section was captured by the Visigoths, causing a disruption of communications and leading Eunapius to complain that travelers from the east to the west were forced to make the long journey by sea.⁹⁵ The west section of the road was closed once more at a later date, as a result of Avar and Slav raids and settlements along it. In the east, too, there were difficulties in keeping the road open despite the mopping-up operations conducted by the Byzantine emperors in 658, 678, and 687/8. The situation was particularly bad to the west of Thessalonike, as can be seen in the journeys of Theodore of Stoudios in 797 and Gregory of Dekapolis around 830: both travelers preferred the sea voyage.

With the exception of the wars between Byzantium and the Bulgars in the ninth and tenth centuries, the east section of the Via Egnatia, which linked Constantinople and Thessalonike, was always open. The establishment of the themes of Thessalonike and Strymon contributed to this.⁹⁶ However, in both the ninth and tenth centuries, the

⁹⁰ Prokopios, *Buildings*, 4.8.5, Haury-Wirth ed., 4:8.17.

⁹¹ *DAI*, 51.

⁹² *Critobuli Imbriotae Historiae*, B, 10.1.

⁹³ κάτωθεν τῆς πλακωτῆς οδοῦ: R. Janin, *Constantinople byzantine* (Paris, 1964), 449.

⁹⁴ A. Karpozilos, “Ταξιδιωτικές περιγραφές και εντυπώσεις σε ἐπιστολογραφικά κείμενα,” Ἡ Ἐπικοινωνία στὸ Βυζάντιο (Athens, 1993), 531–34.

⁹⁵ “Fragments de l’Histoire d’Eunape,” appendix to Zosime, *Histoire nouvelle*, ed. F. Paschoud (Paris, 1986), 3:326–27.

⁹⁶ Oikonomides, “Via Egnatia.”

Slavs who had settled in the defiles of the Strymon harried travelers along the road.⁹⁷ In the tenth century, the Arab writer Masudi tells us that the Hungarians present in the Axios valley and along the Via Egnatia had caused a breakdown in communications with the West.⁹⁸ The west part of the road was completely unusable during the Bulgarian wars and until the recapture of the area by Basil II. After the eleventh century, the Via Egnatia was once more the main axis linking Constantinople to the West. After crossing the Adriatic and marching through western Macedonia in 1097, the forces of the First Crusade came to the Vardar and then advanced on the capital via Serrai, Philippoi, Christoupolis, Mosynopolis, and Kesane. After the recapture of Constantinople by the Byzantines in 1261, the east part of the Via Egnatia became once more the main axis for communications with Thessalonike, although poor weather conditions were often an impediment to travel: in November 1298, there was so much snow on the road from Selymbria to Thessalonike that the journey took Andronikos II more than a month.⁹⁹ To the west, the road fell into disuse, and the coastal cities on the Adriatic, Dubrovnik in particular, communicated with Thessalonike via Serbia and the valley of the Vardar. Even further east, communications dwindled between Constantinople and Thessalonike after the 1320s because of the civil war between the two Andronikoi. After 1341, as Angeliki Laiou points out, we have no references for use of the Via Egnatia at all; by that time, communications were by sea alone.¹⁰⁰ The Via Egnatia regained its military importance at the time of the Ottoman military operations of the 1380s.¹⁰¹

Roads in the Southern Balkans

Roads branched south off the Via Egnatia leading into Macedonia, Thessaly, and Epiros and from there toward central Greece and the Peloponnese. The main road, which Anna Komnene calls the *demasia leophoros* (public avenue) and which is mentioned by the *Tabula Peutingeriana*, headed south from Thessalonike along the coast into Thessaly.¹⁰² After Katerine and Platamon, the road entered the plain of Larissa via the narrow defile of Tempe and Lykostomion. Another north-south road avoided the Tempe gorge and headed along the lower eastern slopes of Mount Ossa, through Stomio (Tsagezi), Karitsa on the coast (mentioned by Edrisi), and Vilika (shown as Verliqui on the portulans). This was the road taken by Alexios Komnenos in 1083 to outflank the Tempe defile, which was guarded.

⁹⁷ P. Lemerle, *Les plus anciens recueils des miracles de saint Démétrius, et la pénétration des Slaves dans les Balkans*, 2 vols. (Paris, 1979–81), 2:192 n. 304.

⁹⁸ N. Oikonomides, "Vardariotes-Wl.nd.r-V.n.nd.r: Hongrois installés dans la vallée du Vardar en 934," *SüdostF* 32 (1973): 1–8.

⁹⁹ A. E. Laiou-Thomadakis, *Peasant Society in the Late Byzantine Empire* (Princeton, N.J., 1977), 28.

¹⁰⁰ A. Laiou, "Η Θεσσαλονίκη, ή ένδοχώρα της και ό οικονομικός της χώρος στην έποχή των Παλαιολόγων," in Βυζαντινή Μακεδονία, 324–1430 μ.Χ. (Thessalonike, 1995), 183–94.

¹⁰¹ E. Zachariadou, "From Avlona to Antalya: Reviewing the Ottoman Military Operations of the 1380s," in eadem, *The Via Egnatia under Ottoman Rule* (as above, note 80), 227–32.

¹⁰² A. Avramea, "Η Βυζαντινή Θεσσαλία μέχρι τοῦ 1204 (Athens, 1974), 71–117; J. Koder and F. Hild, *Tabula Imperii Byzantini*, vol. 1, *Hellas und Thessalia* (Vienna, 1976), 90–100.

There were other routes into Thessaly through the passes in the foothills of Mount Olympus, including the defiles of Petra and Sarantaporos. These roads intersected with the Larissa-Trikkala road, which ran west into Epiros and south-southeast to the Pagasetikos and Malliakos Gulfs. The east-west route, described by Edrisi, began on the Dalmatian coast at Dyrrachion and Avlon and led through Dryinopolis, Ioannina, and Kastoria to Trikkala and Larissa and then on to Almyros, on the Pagasetikos Gulf. This was the itinerary taken by merchants from the west.¹⁰³ Thessaly and Epiros were also linked across the Zygos pass above Metsovo and by other natural passages through the Pindos Mountains, including the defiles of Porta and Mouzaki. With its starting point at Preveza, one of these roads ascended the valley of the upper Acheloos and reached Trikkala and Larissa through the Porta pass. The route south then passed through Pharsala and Domokos to Lamia (Zetouni) and Hypate (Neai Patrai), leading through the pass of Thermopylae to the upper valley of the Kephisos and on to Leva-deia, Thebes, and Athens. Passes through the massif of Mount Oite made possible access to Salona and Galaxeidi on the Krissaion Gulf, while a further branch took the traveler through Lidoriki to the north shores of the Gulf of Corinth or to Naupaktos via Hagios Ioannes. Liutprand of Cremona, in the tenth century, traveled overland from Constantinople to Naupaktos in forty-nine days.¹⁰⁴

From Naupaktos, the road turned north again, along the east bank of Lake Trichonis to Ambrakia and Arta or up the coast to Nikopolis and further north from there to Sybota, Bouthroton, Hagioi Saranta, Panormos, Orikos, and Avlon.¹⁰⁵ This was the route followed, in the opposite direction, by those arriving via Kerkyra from the ports of Sicily and southern Italy (especially Otranto), who, after arriving at Nikopolis and then the Gulf of Corinth (either at Corinth or at Patras), wished to travel into the Peloponnese or central Greece or head further north. It was particularly heavily traveled when the Arabs were occupying Crete and Sicily and when the Bulgarians had severed communications along the Via Egnatia. The coastline of Boeotia and Phokis could be reached by ship and also overland in the ninth and tenth centuries, as we can see from saints' lives and particularly from the *Life of Hosios Loukas Steiriotēs*.¹⁰⁶ Later, in the mid-twelfth century, Benjamin of Tudela sailed from Otranto to Kerkyra in two days and then along the coast of the Ambracian Gulf to Naupaktos. The next stage of his journey took him overland to Krissa and thence to Corinth in three days; after this, it was a further three days to Thebes. Three more days brought him to Euboea, through whose interior he traveled on to Almyros and then Bessaina further to the north, where he took ship once more for Thessalonike.¹⁰⁷

¹⁰³ *La Géographie d'Edrisi*, trans. P.-A. Jaubert, 2 vols. (Paris, 1836–40; repr. Amsterdam, 1975), 2:292; cf. W. Heyd, *Histoire du commerce au Moyen Âge*, 2 vols. (Leipzig, 1936), 1:245.

¹⁰⁴ *Liudprandi Relatio de Legatione Constantinopolitana*, in *Die Werke Liudprands von Cremona*, ed. J. Becker, 3d ed. (Leipzig, 1915), 175–212; A. Andréadès, "Sur Benjamin de Tudèle," *BZ* 36 (1929–30): 460.

¹⁰⁵ For the roads in Epiros, Aitolia, and Akarnania, see P. Soustal, *Tabula Imperii Byzantini*, vol. 3, *Nikopolis und Kephallenia* (Vienna, 1981), 88–96.

¹⁰⁶ N. Oikonomides, "The First Century of the Monastery of Hosios Loukas," *DOP* 46 (1992): 254; idem, "Via Egnatia."

¹⁰⁷ *The Itinerary of Benjamin of Tudela*, ed. A. Asher (London, 1840), 45–49.

Corinth, the most important administrative and commercial center of the Peloponnese, was the destination of the land routes from the north and also, because of its good harbors at Kenchreai and Lechaion, of the sea routes across the Aegean and the Ionian Sea. From Corinth, the route west to Achaia and Patras led along the coast; southward, the road passed through the urban centers of the interior into the central Peloponnese and thence to Sparta, the port of Gytheion, and Monemvasia. In the western Peloponnese, there were roads from Patras into the hinterland and others to the harbors down the coast as far as Methone and Korone in the southwest.

Asia Minor

Asia Minor was a place of vital significance in both military and economic terms. Its geographical position in relation to Constantinople, the Black Sea, the eastern Mediterranean, the Aegean, and Greece, and the way in which its network of communications was organized ensured that it formed part of the body of the empire. Lying as it did at the crossing of the great routes linking Asia with Europe and the lands around the Black Sea with the Mediterranean, it was the heart of the Byzantine world. The mountain ranges and plateaus of the interior and the heights barring north and south (the Pontos and Tauros massifs) made communications difficult, while the valleys of the rivers expedited them. In the Roman period, the major road axes had been horizontally orientated, from east to west, starting at the Euphrates and ending at the urban centers and ports of western Asia Minor: Smyrna, Ephesos, and Miletos. From there travelers could sail across the Aegean toward Rome.¹⁰⁸

With the founding of Constantinople, there was a change in this pattern of road axes across Asia Minor, linking the urban centers and facilitating the movements of Byzantine troops, imperial employees, merchants, and pilgrims. One main road led from northwest to southeast, while other axes headed east and south.

The appearance of the Arabs and the constant raids they carried out between the seventh and ninth centuries made communications in the Asia Minor hinterland difficult, and the Byzantines lost control of many road arteries, especially those within the area bounded by Caesarea, Ankyra, Amorion, and Dorylaion. On the Black Sea coast, however (with the cities of Herakleia, Amisos, Sinope, and Amastris), and along the west coast (Adramyttion, Smyrna, Ephesos, and Miletos), where the impact of the Arab raids was not felt, the road network continued to operate.¹⁰⁹ The military organization of Byzantium, with its imperial army made up of thematic army groups, was still able to march along a chain of fortified camps (*aplekta*) located at Malagina, Dorylaion, Kavorkin, Caesarea, Koloneia, and Dazimon.¹¹⁰ At this time, fortresses were built at strategic points from which the roads could be controlled. When the Arab wars ended, there was thus growth in the urban centers along the routes that the invaders had

¹⁰⁸ W. M. Ramsay, *Historical Geography of Asia Minor* (London, 1980), 74–75.

¹⁰⁹ H. Ahrweiler, “L’Asie Mineure et les invasions arabes (VIIe–IXe siècles),” *RH* 227 (1962): 1–32 (= *Etudes sur les structures administratives et sociales de Byzance* [London, 1971], art. 9).

¹¹⁰ *De ceremoniis aulae byzantinae*, ed. J. J. Reiske, 2 vols. (Bonn, 1829–30), 1:444–45; cf. V. Koutava-Delivoria, ‘Ο γεωγραφικός κόσμος Κωνσταντίνου του Πορφυρογεννήτου, vol. 2 (Athens, 1993), map 5.

followed: Amorion, Akroinon, Dorylaion, Euchaita, Synada, Charsianon, and Koloneia in Cappadocia.¹¹¹ In the Komnenian period, as the Byzantine-ruled area of Asia Minor shrank, the routes moved further west, while the road axis from the south linked the coast with the cities of the interior and the shores of the Black Sea.

One main road axis ran from northwest to southeast.¹¹² It set out from Chalcedon, where the public stables serving the imperial road were located,¹¹³ made its way to Nikomedeia, an important crossroads for communications with an imperial “hostel” (ξενοδοχεῖον),¹¹⁴ and Nicaea, where there was also an imperial “hostel”¹¹⁵ and a bridge that Justinian had reconstructed. The next stop was Leukai, followed by Ioulianopolis, the Siberis River, the village of Sykeon (with a bridge), Mnizos, and finally Ankyra. From the important communications hub of Ankyra, the road headed south to the east of Lake Tatta in the direction of Aspona, Parnassos, and Koloneia, then southwest to Tyana, Faustinopolis, Podandos, and the Cilician Gates. Then the traveler would ride on to Tarsos, Adana, Mopsuestia, and the Amanian Gates before coming to the shore of the Issikos Gulf and reaching Alexandretta and subsequently Antioch. Now, from that major urban center, he could turn south and make his way along the coast road through the great Mediterranean centers of Laodikeia, Tripolis, Berytus, Tyre, and ultimately the Holy Land.¹¹⁶

From Nicaea, the road led through the stations of Schinai and Leukai to the *aplekton* of Malagina and then headed south to Dorylaion, another important hub for communications. From there, a number of branch roads led west via Kotyaion to Pergamon and southeast to Amorion and thence to Ikonion. Dorylaion was also connected with Philomelion and then ran west to Synada, Apameia, and Laodikeia, where the road joined that from Magnesia to Philadelphia. The forces of the First Crusade marched from Nicaea to Dorylaion and thence to Synada, Apameia, Philomelion, and Ikonion on their way to Tarsos. Anna Komnene talks of a road from Bithynia to Philomelion in Phrygia.¹¹⁷ Ankyra was the focus for roads from the west, north, and south; from that important city, there was a route east to Sebasteia, Keltzene, Theodosiupolis (Erzerum), Kars, Anion, and then southeast to Tabriz. Caesarea was another important center for communications, standing as it did on the road linking Tarsos, Podandos, and Tyana before heading on to Sebasteia.¹¹⁸

¹¹¹ Ahrweiler, “L’Asie Mineure.”

¹¹² This important road, known as the “pilgrim’s road,” is mentioned by both the Jerusalem *Itinerarium* and the *Tabula Peutingeriana*. For its route in Roman times, see D. French, *Roman Roads and Milestones of Asia Minor*, fasc. 1, *The Pilgrim’s Road* (Oxford, 1981).

¹¹³ As recorded in the 10th century in the Life of St. Luke the Stylite: Vogt, “Vie de S. Luc le Stylite,” 42–43.

¹¹⁴ G. Zacos and A. Vegliery, *Byzantine Lead Seals*, 2 vols. (Basle–Berne, 1972–84), 1: no. 1995.

¹¹⁵ *Ibid.*, 2: no. 263.

¹¹⁶ For detailed references to the roads, see J. Lefort, “Les communications entre Constantinople et la Bithynie,” in Mango and Dagron, *Constantinople and Its Hinterland* (as above, note 2), 93–110; F. Hild and H. Hellenkemper, *Tabula Imperii Byzantini*, vol. 5, *Kilikien und Isaurien* (Vienna, 1990), 128–40.

¹¹⁷ *Alexiade*, 15.4.4, Leib ed., 3:201.

¹¹⁸ K. Belke and N. Mersich, *Tabula Imperii Byzantini*, vol. 7, *Phrygien und Pisidien* (Vienna, 1990), 139–60; F. Hild, *Die byzantinische Strassensystem in Kappadokien* (Vienna, 1977); F. Hild and M. Restle,

Another important road led west from Nicaea, passing south of the lake in the direction of Kios and then further south through Prousa, Apollonias, and Lopadion—a major intersection with a “hostel” and a bridge over the Ryndakos River—to Kyzikos. There was also a route from Nicaea around the north shore of the lake and along the road with two bridges by the Drakon River that Justinian had built, down to the coast and thence through Kios to Lopadion, Parion, Lampsakos and Abydos.¹¹⁹ We have detailed knowledge of the itinerary and halting places of this route from a letter of Theodore of Stoudios dating from 797, in which he describes his “journey of exile” (ἐξόριστον ὁδοιπορίαν) from the monastery of Kathara in Bithynia to Thessalonike. The journey from Kathara to Abydos took him fourteen days.¹²⁰ On the west coast, the road led from Abydos to Adramyttion and then led through Pergamon, Phokaia, Smyrna, Ephesos, and Miletos before running along the south coast in the direction of Patara, Myra, and Attaleia. In 1111 the caesar John Doukas took this route from Abydos to Ephesos before turning inland and advancing through Philadelphia and Laodikeia to Polybotos in Phrygia,¹²¹ and it was also used by the Frankish troops of Louis VII during the Second Crusade.¹²²

Among the most important routes was that running along the south coast, into which the roads from the interior fed so as to communicate with the sea routes via the coastal cities and ports: Patara, Myra, Attaleia, Kibyrra, Side, Anemourion, Seleukeia, Isauria, Korasion, Korykos, and Zephyrion (modern Mersin). From there the road turned inland to Tarsos, Adana, and Mopsuestia at the Amanian Gates before heading south to Antioch. Another road ran parallel to this one, from Zephyrion to Mallos and the harbor of Aigaiai (Ayas, Lajazzo). In these cities and ports, we know of the construction work—roads and bridges—for which Justinian was largely responsible: the building of a road from Seleukeia and Korykos in 521 under Justin I, bridges across the Kydnos River and straightening of its estuary at Tarsos, a bridge over the Saros River at Adana, and, further to the north, a bridge at Mopsuestia and construction of a road at Anazarbos. In 1137 John II Komnenos marched through the cities of Attaleia and Seleukeia, and from Zephyrion advanced through Tarsos and Adana to Mopsuestia.¹²³ There was a well-known and important road linking the coast with the interior: Pegolotti describes it as setting out from the port of Aigaiai on the Cilician coast and leading to Tabriz: along it were the halting places of Sisia (Kozan) and Kopitar, after which, through Rhondandos, the road went to Caesarea, Sebasteia, Keltzene (Erzincan), Theodosiopolis (Erzerum), and finally Tabriz.¹²⁴

Tabula Imperii Byzantini, vol. 2, *Kappadokien: Kappadokia, Charsianon, Sebasteia und Lykandos* (Vienna, 1981).

¹¹⁹ Lefort, “Les communications,” 215–18.

¹²⁰ Cheynet and Flusin, “Du monastère ta Kathara,” 201–6.

¹²¹ *Alexiade*, 11.5, Leib ed., 3:26–27.

¹²² R.-J. Lilie, *Handel und Politik zwischen dem byzantinischen Reich und den italienischen Kommunen Venedig, Pisa und Genua (1081–1204)* (Amsterdam, 1984), 251–52.

¹²³ Hild and Hellenkemper, *Kilikien und Isaurien*, 134–37.

¹²⁴ F. Balducci Pegolotti, *La pratica della mercatura*, ed. A. Evans (Cambridge, Mass., 1936), 28–29, 389–91.

The north Asia Minor road, along the south shores of the Black Sea, is described in the *Tabula Peutingeriana*. It was not an easy route, since the silting up of rivers and the terrain along the coast made travel by land a hard undertaking, in contrast to the comfortable, rapid, and safe sea voyage. To travel overland from Constantinople to Theodosiupolis (Erzerum) took twenty-five days, while the sea voyage, including a stage by road after Rizaion, required only a third of that time. Edrisi describes a route along the coast of Pontos from Trebizond to Constantinople in twenty-eight days, but this probably involved some stages by sea.¹²⁵ At Krateia (Flaviopolis) on the road from Constantinople to Ankyra, a branch led off to the north, crossing the Halys River to Andrapa, Phanaroia, Koloneia, and Theodosiupolis.

All the great rivers of Pontos—the Halys, the Iris, and the Akampsis—were navigable, permitting communications between the hinterland and the sea. From the ports, there were also roads to the urban centers of the interior: Herakleia in Pontos was linked to the road from Prousa to Krateia and Ankyra; one could travel overland from Amastris to Germia and Gangra; from Sinope and Sampsous, there was a road to Ama-seia, Komana, Sebasteia, Melitene, and Samosata; and the great road to Sebasteia and Theodosiupolis (Erzerum) was accessible from Trebizond.¹²⁶

*Communications by Sea: Infrastructure, Length of Journeys,
Periploi, Portulans, and Nautical Charts*

Like the overland routes, communications by sea used itineraries that had often become fixed and relied on the many years of experience of the seamen and on the infrastructure available along the voyage. But “since it is not in the nature of the waters to have established roads nor to show footprints and the traces of vehicles,”¹²⁷ these sea routes have to be marked out and reconstructed by studying scattered texts of widely varying origins, by identifying harbors and landing places (*skalai*), and by investigating shipwrecks and such traces of marketed commodities as have survived. From this evidence, it is possible not only to reconstruct the sea-lanes but also to calculate the relative value of the various places linked by the axes of communication by sea. In most cases, alternations in the routes and the reduced frequency of sailings were the result of political and military events, but they could also be associated with problems of state control over shipping and over the freedom of movement of independent merchants, with the question of reductions in the agricultural surplus, and with the inability of importing areas to absorb the products brought there.

We know that in good weather it was possible to cover a given distance by sea much more rapidly than overland; indeed, a day’s sea voyage was regarded as equivalent to a week’s march. Nonetheless, storms and head winds often caused long delays. The

¹²⁵ *La Géographie d’Edrisi*, 2: 394.

¹²⁶ A. Bryer and D. Winfield, *The Byzantine Monuments and Topography of the Pontos*, 2 vols. (Washington, D.C., 1985), 1:17–60.

¹²⁷ ἐπειδὴ τῶν ὑδάτων ἡ φύσις ὁδοὺς οὐκ ἔχει διωρισμένας, τύπους τε ποδῶν καὶ γραμμὰς ὁχημάτων: *Life of St. Stephen the Younger*, PG 100:1096D; cf. Auzépy, *La Vie d’Etienne le Jeune*, 109.

mare clausum—the prohibition on sea travel for a period of four months each year—was not always obeyed, especially in late Byzantine times.¹²⁸ The limited, incomplete, and fragmentary information found in the sources about the length of time a ship took to cover a given distance is equally relative: efforts to arrive at a typology for the duration of a voyage over a specific distance lack all the facts needed for reconstruction. The speed at which ships could sail and thus the length of the voyage would depend on what course had been chosen—hugging the coast or sailing the open sea—on weather conditions and the direction of the wind, on the length of stops at landing points and the number of overnight stays in harbor for repairs, the purchase of provisions, and trade, and also on the ratio between the number of oarsmen and the capacity of the ship, consequently on the economic scope for investments in shipping. In line with all of this, the sea voyage and its duration have to be interpreted within the broader framework of interaction and blending among the elements of time, the sea, and society.¹²⁹

Some sources make clear statements about the distance between two points and the time needed to cover it: Theodore of Stoudios, for example, tells us that the distance from Lemnos to Cape Kanastro on the Pallene promontory is 240 km and that the voyage took twelve hours.¹³⁰ Other sources reveal the difference that there could be between the outward and the return voyage: Mark the Deacon, traveling in the service of Porphyrios, bishop of Gaza, in the fifth century, took twenty days to sail from Askalon to Constantinople, but only half that time on the way home.¹³¹

From the *Life of St. Gregory of Akragas* (died 592), we learn that the saint took ship and sailed first to Carthage and then to Tripolis in Phoenicia in twenty days.¹³² Thomas Magistros describes the journey he made by merchant ship between 1314 and 1318 in his *Concerning a Voyage from Thessalonike to Byzantium and back to Thessalonike* (Περὶ τοῦ ἐς Βυζάντιον ἐκ Θεσσαλονίκης ἀνάπλου καὶ αὐθις ἐς αὐτήν κατάπλου): he left Thessalonike on 1 October and reached Constantinople via Lemnos, Imbros, Samothrace, Tenedos, the Hellespont, and the Propontis in twenty days. The return journey, in midwinter, took forty-five days and involved twenty-four days of enforced immobility, at first because of a calm and then because of bad weather.¹³³ St. Sabas and a delegation of Athonite fathers set out from the harbor of the Great Lavra on Mount Athos for Con-

¹²⁸ Jones, *Later Roman Empire*, 2:843; J. Rougé, *Recherches sur l'organisation du commerce maritime en Méditerranée sous l'Empire romain* (Paris, 1966), 31–35; G. Dagron, “Das Firmament soll christlich werden: Zu zwei Seefahrtskalendern des 10. Jahrhunderts,” in *Fest und Alltag in Byzanz*, ed. G. Prinzing and D. Simon (Munich, 1990), 145–46; and see below, 80.

¹²⁹ H. Antoniadis-Bibicou, *Etudes d'histoire maritime de Byzance: A propos du “thème des Caravisiens”* (Paris, 1966), 27–29; A. Udovitch, “Time, the Sea and Society: Duration of Commercial Voyages on the Southern Shore of the Mediterranean during the High Middle Ages,” in *La navigazione mediterranea nell'alto medioevo* (Spoleto, 1978), 1:503–46.

¹³⁰ Cheynet and Flusin, “Du monastère ta kathara,” 198, 202.

¹³¹ *Vie de Porphyre, évêque de Gaza*, ed. H. Grégoire and M.-A. Kugener (Paris, 1930), 6, 26–27, 34, 37, 55, 57.

¹³² PG 98:549–716; cf. H. Magoulas, “The Lives of the Saints as Sources of Data for the History of Commerce in the Byzantine Empire in the VIth and VIIth Cent.,” *Κληρονομία* 3 (1971): 313.

¹³³ G. Makris, *Studien zur spätbyzantinischen Schifffahrt* (Genoa, 1988), 225–27; Karpozilos, “Ταξιδιωτικές περιγραφές,” 524–29; cf. Makris, “Ships,” *EHB* 95.

stantinople on 23 March 1342 and, with favorable winds, sailed through the islands of the Aegean, the Hellespont, and the Propontis to the harbor of the capital in just three days.¹³⁴

Documents dating from the second half of the fourteenth century and concerning the voyages of Genoese ships are indicative of the time it could take to cover a specific route by sea.¹³⁵ These ships sailed close to the coast, rarely venturing out into the open sea except in emergencies. The day's voyage would begin at dawn, and at dusk the ship would take refuge in a bay where the night would be spent; they rarely sailed in darkness. In 1351, one of these Genoese galleys covered an average distance of 65 km in a day, and another in 1369 made 76 km in a day. The voyage from Alexandria to Genoa took twenty-three days, or twenty-nine days in the case of another galley. A distance of 176 km covered in a single day was regarded as a noteworthy exception: another ship took two days and nights at sea to cover the 80 km from Ios to Melos in bad weather. The lengthy stops in bays and at landing points that might be needed and the possibility of encounters with pirates or enemy ships made the duration of voyages unpredictable.

The Venetian galley convoys called *muda* set out from Venice in late July and sailed to Constantinople via Methone and Euboea, dropping anchor in the Byzantine capital for at least two weeks on the outward voyage and for a few days on the way home. After Constantinople, they would call at the harbors around the Black Sea, and in particular at Tana, returning from the Sea of Azov via Trebizond or Sinope. Including the voyage home to Venice, it has been calculated that this voyage would have lasted some six months, bringing the galleys home in December.¹³⁶

J. Koder's study¹³⁷ of navigation in the Aegean and of the texts that preserve the distances and durations of journeys by sea in the late Middle Ages led him to the following conclusions: the port of origin of the vessel or its crew was not important, but the type of ship and the competence of the captain and seamen were factors of great significance; the average daily distance covered was at least 30 km and might be as much as 50 km; ships did not necessarily remain in harbor at particular times of the year, since we know that George Sphrantzes traveled every month all year round; we should not forget, however, that the use of the compass had changed the conditions of sailing.

Although our studies of shipwrecks have not yet come up with answers to some important questions, we can draw some conclusions about the mechanisms of traffic at sea.¹³⁸ In terms of statistics, it has been observed that twice as many shipwrecks date

¹³⁴ Life of St. Sabas the Younger, ed. D. Tsamis, in Φιλοθέου Κωνσταντινουπόλεως τοῦ Κοκκίνου Ἀγιολογικὰ Ἔργα, A', Θεσσαλονικεῖς Ἅγιοι (Thessalonike, 1985), 292.

¹³⁵ M. Balard, "Escalaes génoises sur les routes de l'Orient méditerranéen au XIV^e siècle," *Recueils de la Société Jean Bodin* 32 (1974): 234–64.

¹³⁶ F. Thiriet, *La Romanie vénitienne au moyen-âge* (Paris, 1959), 343.

¹³⁷ "Νησιώτικη επικοινωνία στο Αιγαίο κατά τον όψιμο Μεσαίωνα," in Ἡ Ἑπικοινωνία στό Βυζάντιο (Athens, 1993), 445–55.

¹³⁸ A. J. Parker, *Ancient Shipwrecks in the Mediterranean and the Roman Provinces*, (Oxford, 1992); F. van Doorninck, Jr., "Byzantine Shipwrecks," *EHB*.

from the sixth century as from the fifth, with the number falling away in the seventh century and no shipwrecks at all from the eighth century having been found.¹³⁹ Shipwrecks make their appearance again in the ninth and the early tenth century. The discovery of shipwrecks of different periods along the same routes—indeed, often in the same positions—is indicative of the degree to which seamen stuck to predetermined routes. One typical example is that of a thirteenth-century wreck at Kastellorizo,¹⁴⁰ an island on the sea-lane that crossed the eastern Mediterranean and linked Cyprus and Rhodes with the Aegean. Shipwrecks of various periods have been identified along this route off the north coast of Cyprus, at Kyrenia, at Cape Chelidonia, on the Asia Minor coast facing Kastellorizo, and at Yassi-Ada near Kos.

It is often difficult to determine the port of origin and destination of the sunken ships by studying their cargoes, and especially the amphoras they were carrying, because these vessels often came from different places. The example of the sixth-century shipwreck at Cefalù off western Sicily is indicative in this respect: the vessel was transporting amphoras from Antioch, the north Aegean, and the Black Sea, along with boxes from Tunisia.¹⁴¹ This variety of origin seems to suggest that the ship had been sailing along the coast, buying—and perhaps selling—from port to port. This phenomenon can also be seen in texts such as the *Katarche* or *Horoskopion* of the year 475,¹⁴² which records details of the voyage and the stops made at various points: the vessel had taken on a cargo of camels in Cyrenaica, then loaded additional cargo consisting of precious fabrics and silver goods in Alexandria before heading out into the open sea and setting course for Athens. On the return journey, it made no stops.

The *periploi* of the ancient Greeks, texts recording sea routes and distances in miles or stadia, continued to be produced in later times.¹⁴³ The anonymous *Periplus of the Euxine Sea* (Περίπλους τοῦ Εὐξεινίου Πόντου) must have been composed in the sixth century,¹⁴⁴ while the anonymous and incomplete *Measurement in Stadia of the Great Sea* (Σταδιασμός τῆς Μεγάλης Θαλάσσης), compiled in the early years of the empire, records distances in both stadia and miles and has survived in the form of a tenth-century manuscript in a codex in Madrid.¹⁴⁵ Apart from distances, it also gives instructions for

¹³⁹ S. J. B. Barnish, "The Transformation of Classical Cities and the Pirenne Debate," *JRA* 2 (1989): 397 n. 96.

¹⁴⁰ G. Philotheou and M. Michailidou, "Plats byzantins provenant d'une épave près de Castellorizo," *BCH*, suppl. 18 (1989): 173–76; and "Βυζαντινά πινάκια από το φορτίο ναυαγισμένου πλοίου κοντά στο Καστελλόριζο," *ΑΔ* 41.1 (1986) [1991]: 271–330; Parker, *Shipwrecks*, no. 538.

¹⁴¹ Parker, *Shipwrecks*, no. 292.

¹⁴² G. Dagron and J. Rougé, "Trois horoscopes de voyages en mer," *REB* 40 (1982): 126–27.

¹⁴³ Apart from the sea routes recorded in the *Itinerarium* of Antoninus, we also know of the handbook for sailors compiled by Markianos of Herakleia in Pontos under the title *Periplus mari exteri*, which may have been accompanied by a map based on the Ptolemaic coordinates; Müller, *Geographi Graeci Minores* (Hildesheim, 1965), 1:515–62; Dilke, "Itineraries," 237.

¹⁴⁴ *Geographi Graeci Minores*, 1:424–26. For the chronology of "Anonymous," see A. Diller, *The Tradition of the Minor Greek Geographers* (Lancaster, Pa., 1952), 113; in the view of A. Silberman, "Arien *Périple du Pont Euxin*: Essai d'interprétation et d'évaluation des données historiques et géographiques," *Aufstieg und Niedergang der römischen Welt*, II.34.1 (1993): 276–311, "Anonymous" is a 5th-century work.

¹⁴⁵ *Geographi Graeci Minores*, 1:427–514; Dilke, "Itineraries," 237; H. Ahrweiler, *Byzance et la Mer* (Paris, 1966), 164.

navigation, descriptions of coastlines, harbors, and sea depths, identifying, among other things, reefs and places where supplies might be obtained.

The *De cerimoniis* of Constantine VII Porphyrogenetos has preserved the names of stops on the sea route made by the imperial fleet and the distances between them in miles. The *Stadiodromikon*, as this text is called, is interpolated at the end of the list of ships being prepared to take part in the ultimately unsuccessful campaign of 949 to recapture Crete from the Arabs.¹⁴⁶ The texts in the colloquial language dating from the same period and containing the distilled maritime experience of the *strategos* of the Kibyrrhaiotai and of his counterpart of the Mardaitai¹⁴⁷ are connected with the recommendations of the *Taktika* and the historians of the Macedonian dynasty: Leo VI exhorted his *strategoi* to acquire expert knowledge and experience of the sea so as to be able to predict changes in the weather. The *Taktika* of Nikephoros Ouranos recommends that each *strategos*, and each ship, ought to have the services of experienced pilots who were familiar with the winds, the reefs and shallows, the land around which the ship was sailing, the islands, and the harbors.¹⁴⁸ These texts, and the book to which Constantine VII refers in connection with “the things that seafaring men observe”¹⁴⁹ and that he regards as essential on any campaign, demonstrate that the oral tradition had survived and that the seagoing experience passed down by word of mouth was of primary importance in navigation.

It has been stressed that the descriptive texts—the *periploi*—were of great significance in the preparation of maps; nonetheless, none of the texts mentioned above contains any maps, while all make much of the importance of the experience and practical knowledge passed down among seafarers. As O. Dilke notes, it is only from the literary sources that we could extract any evidence as to the existence of maps in Byzantium.¹⁵⁰

Of particular interest in connection with this problem is the *Alexiad* of Anna Komnene,¹⁵¹ which narrates the sea battle fought between the Byzantine fleet and the Normans in the Adriatic in 1108. Alexios, having set up his headquarters in Thessalonike and seeing that the *megas doux* Isaac Kontostephanos had positioned his fleet wrongly, in such a way that the south winds were hampering its movements while favoring those of the enemy, drew a map of the coastline of Longobardia and Illyricum on which he marked the harbors in each place. He dispatched this to Kontostephanos, accompanying it with a letter explaining where the fleet was to be based and from which point it could sail, with a favorable wind, against the enemy. This piece of information about the way in which Alexios—who alone had such knowledge, of which his admiral was

¹⁴⁶ G. Huxley, “A Porphyrogenitan Portulan,” *GRBS* 17 (1976): 295–300.

¹⁴⁷ Sp. Lambros, “Τρία κείμενα συμβάλλοντα εἰς τὴν ἱστορίαν τοῦ ναυτικοῦ παρὰ Βυζαντινοῖς,” *Νέος Ἑλλ.* (1912): 162–77; Ahrweiler, *Byzance et la Mer*, 399–400; Dagron, “Zwei Seefahrtskalendern,” 145–46.

¹⁴⁸ Leo VI, *Taktika*, PG 107:671–1128; A. Dain, *Naumachica* (Paris, 1943), 93.

¹⁴⁹ “Ὅσα παρατηροῦνται οἱ πλευστικοί,” *De cer.*, 1:467.

¹⁵⁰ O. A. W. Dilke, “Cartography in the Byzantine Empire,” in *The History of Cartography* (as above, note 54), 1:258, no. 5.

¹⁵¹ *Alexiade*, 3.4, Leib ed., 3:113.

not in possession—"delineated" the coastline and identified its harbors deserves particular attention. It can be hypothesized that Alexios possessed sketches of the coast of the Adriatic which he copied, that there were experienced sailors in his entourage, or that he had access to descriptive texts providing detailed information. We might also speculate as to whether this drawing of the coastline was among those that survived and were later assembled by the cartographers of the West so as to produce, in the late thirteenth century, the first known manuscript naval chart.

Various ideas have been put forward as to the origins of the descriptive texts called portulans and of the naval charts, the earliest of which is believed to be the manuscript map of the Mediterranean known as the "Pisan map" and dating from the late thirteenth century.¹⁵² One of the most likely theories is that the naval charts of the West were put together from maps of smaller sections of the Mediterranean and the Black Sea. On these maps, coastlines were depicted and harbors marked by means of triangulation in relation to the directions of the wind. Such cartographic work presupposed that it was possible to work out the correct orientation and determine distances, and this could only be done with instruments of measurement and careful observation.¹⁵³ It is interesting to note that the earliest naval chart coincides chronologically with the oldest known descriptive text (portulan) from the West, the mid-thirteenth-century *Compasso da navigare*,¹⁵⁴ and also with the introduction of the compass. However, the recent publication of a portulan mentioning a naval chart produced in Pisa around 1200 necessitates the revision backward, by about a century, of these dates.¹⁵⁵

After the late thirteenth century, the cartographic studios of the great trading cities of the West—Venice, Genoa, Pisa, and Majorca—turned out naval charts to meet the needs of their own merchant fleets. Apart from the "Pisan map" already mentioned, which was probably made by a Genoese, the most important of these early naval charts are Italian and Catalan, and they depict both the Mediterranean and the Black Sea. Among others, one could cite the "Tammar Luxor" map (13th century) and the maps drawn by Petrus Vesconte (1313, 1321), Francesco Pizigano (1367, 1373), G. Soleri (ca. 1385), A. de Virga (1409), J. de Giroladis (1422), G. de Vallsecha (1447), A. Bianco (1436, 1448), and A. Benincasa (1461, 1470).¹⁵⁶

On the maps of Petrus Vesconte, drawn in 1313, we can trace the course taken by the ships from Genoa to the trading ports and stations already familiar to us from the descriptive texts (portulans). Along the Tyrrhenian coast as far as the Straits of Otranto, the ports of Gaeta, Neapolis, Salerno, Messina, and Croton are marked in red, and the bays in which ships could seek refuge are also indicated. Beyond Otranto, the course

¹⁵² M. Mollat du Jourdin and M. de la Roncière, *Les portulans: Cartes marines du XIIIe au XVIIe siècle* (Paris, 1984), no. I, 198.

¹⁵³ T. Campbell, "Portolan Charts from the Late Thirteenth Century to 1500," in *The History of Cartography* (as above, note 54), 1:371–463; Jourdin and de la Roncière, *Les portulans*, 11–20.

¹⁵⁴ B. R. Motzo, "Il compasso da navigare, opera italiana della metà del secolo XIII," *Annali della Facoltà di Lettere e Filosofia della Università di Cagliari* 8 (1947): 1–137.

¹⁵⁵ P. G. Dalché, *Carte marine et portulan au XIIe siècle: Le liber de existencia riveriarum et forma maris nostri Mediterranei* (Pise, circa 1200) (Rome, 1995).

¹⁵⁶ A. Avramea, "Ἡ Χαρτογράφηση τοῦ παράλιου χώρου," in *Ἑλληνικὴ Ἐμπορικὴ Ναυτιλία (1453–1850)*, ed. S. Papadopoulos (Athens, 1972), 179–230.

leads from island to island, the most important of which Vesconte marked in color: Euboea, Crete, Rhodes, Chios, and Mytilene. Also included are the smaller islands that lay along the sea-lanes, including Velopoula and Gerakounia (Phalkonera) on the way from Monemvasia to Melos.¹⁵⁷

Sea-Lanes

Since the foundation of Constantinople, all the sea-lanes had led to it. The great maritime axis from the Cimmerian Bosphoros across the Black Sea led through the Bosphoros to Constantinople and then through Propontis and the Straits of the Hellespont out into the eastern, central, and western Mediterranean.

The harbors along the Propontis—or the “lake of Constantinople,” as it has been called¹⁵⁸—linked the capital with the nearby provinces of Thrace and Asia Minor, Selymbria, Herakleia (Perinthos), and Rhaidestos on the north shore were, with Kallipolis on the Thracian peninsula, the most important ports of access to the Thracian hinterland.

Communications by sea with Bithynia took place along a number of routes.¹⁵⁹ There were frequent sailings from Constantinople to Kyzikos and Lopadion (by way of the Ryndakos River) and to the ports of the south shore of the Gulf of Kios (Katabolos). According to a hagiographical text, it took four days to sail from Chalke to Kios against a strong head wind.¹⁶⁰ The Bithynian port most frequently used was Pylai (now Karakilis, to the east of Yalova). Another route linked Constantinople with Helenopolis, founded by Constantine the Great to ease communications between Bithynia and the capital.¹⁶¹ Nearby, Alexios I Komnenos founded the fortress of Kibotos to protect the route from Aigialoi on the Propontis into Asia Minor. Prainetos and Eribolos were also the end ports of sea routes.

Communications through the Bosphoros between Constantinople and the ports of the Black Sea, especially those on the west and south coasts, were easy. The Byzantine emperors frequently traveled by sea from the capital to visit the nearby ports and destinations further away. Basil I sailed to Rhegion in order to inspect the bridge he was having repaired,¹⁶² and in 680 Constantine IV visited Mesembria by sea.¹⁶³ Pylai in Bithynia was the landing place most frequently used by the emperors.

The North-South Axis

The important north-south sea route linked Constantinople with the eastern Mediterranean, Egypt, and the coast of North Africa. The route ran from Herakleia on the

¹⁵⁷ Jourdin and de la Roncière, *Les portulans*, nos. 2–4, 198–99.

¹⁵⁸ H. Ahrweiler, “L’escale dans le monde byzantin,” *Recueils de la Société Jean Bodin* 32 (1974): 167.

¹⁵⁹ Lefort, “Les communications,” 209–15.

¹⁶⁰ Βίος Νικηφόρου Μηδικίου, ed. F. Halkin, *AB* 78 (1960): 424; cf. E. Kountoura-Galaki, “Γιὰ τὸν κοινωνικὸ καταμερισμὸ τῶν ταξιδιῶν τῶν ἀγίων,” in *Ἡ Ἑπικοινωνία στὸ Βυζάντιο* (as above, note 137), 506.

¹⁶¹ C. Mango, “The Empress Helena, Helenopolis, Pylae,” *TM* 12 (1994): 143–58.

¹⁶² *DAI*, 51.

¹⁶³ Theophanes, 1:358.

north coast of the Propontis to the Straits and from the customs post at Abydos out to the island of Tenedos, the sea fortress that protected the entrance to the Propontis. From Tenedos, the route headed south, round the Aegean islands (Mytilene, Chios, Samos, and Kos) to Rhodes, one of the largest harbors in the eastern Mediterranean and the point where the north-south and east-west sea-lanes across the Mediterranean met.¹⁶⁴ From Rhodes, ships could sail west to Crete or east to Cyprus, in its privileged position between the ports of Syria, Palestine, Egypt, and the south coast of Asia Minor. Ships leaving the large islands of Rhodes and Cyprus then sailed south across the open sea to Alexandria. Alternatively, they could continue east from Rhodes, along the south coast of Asia Minor, past Pamphylia to Attaleia, Seleukeia in Cilicia, Korykos, and the harbor of Aigaiai (Lajazzo), and thence to the bay of Issos (Alexandretta) and St. Symeon for Antioch.¹⁶⁵ The route south now lay along the coast of Syria and Palestine, with its important commercial harbors of Laodikeia, Tripolis, Berytos, Sidon, Tyre, Akra, Caesarea, Gaza, and Pelousion. At Pelousion the sea route intersected with the road from Klysma, which linked the Red Sea ports with the Mediterranean and then ran west toward Alexandria and the North African coast.¹⁶⁶

We know from the sources that traffic along this important route was dense, especially in the centuries before the Arab invasion of the seventh century and the loss of the southern provinces. The *Miracles of St. Artemios*, of the seventh century, refer to merchant ships plying between Rhodes and Constantinople,¹⁶⁷ a distance that Porphyrios of Gaza sailed in five days. The Arab writer Ibn Hordadbeh, in the ninth century, gives an account of the voyage by sea from Constantinople to Pelousion in Egypt.¹⁶⁸ In his *Stadiodromikon*, Constantine VII describes the route, 792 nautical miles, from Constantinople to Crete via Mytilene, Chios, Samos, Phournoi, Naxos, Ios, Thera, and Christiana;¹⁶⁹ at a later date, Benjamin of Tudela gives in detail the distances from island to island on the way from Constantinople to Cyprus: it was two days from Constantinople to Rhaidestos, two days from Rhaidestos to Kallipolis, two days from Kilia (Koila?) to Mytilene, three days from Mytilene to Chios, two days from Chios to Samos, three days from Samos to Rhodes, and four days from Rhodes to Cyprus.¹⁷⁰ The Byzantine fleet took three days to sail from Attaleia to Ascalon, while from Cyprus to Tripolis in Syria was a two days' journey, according to Edrisi.¹⁷¹ Nikephoros Gregoras states that a sail-equipped merchant ship could cover the distance between Constantinople and Rhodes in seven days, between Rhodes and Alexandria in five, and between Cyprus and Crete in nine.¹⁷²

¹⁶⁴ Ahrweiler, "L'escalé," 170–71.

¹⁶⁵ E. Malamut, *Les îles de l'Empire byzantin, VIIIe–XIIe siècles* (Paris, 1988), 536–41.

¹⁶⁶ Magoulas, "The Lives of Saints," 303–6.

¹⁶⁷ *Miracula Artemii* in *Varia graeca sacra*, ed. A. Papadopoulos-Kerameus (St. Petersburg, 1909).

¹⁶⁸ T. Lewicki, "Les voies maritimes de la Méditerranée dans le haut moyen-âge d'après les sources arabes," in *La Navigazione mediterranea nell'alto medioevo* (as above, note 129), 452.

¹⁶⁹ Huxley, "Portulan," 295.

¹⁷⁰ *Itinerary of Benjamin of Tudela*, 56–57.

¹⁷¹ *Géographie d'Edrisi*, 130.

¹⁷² *Nicephori Gregorae Byzantina historia*, ed. I. Schopen and I. Bekker (Bonn, 1829–55), 24.6, 7.

Sailing West

A dense network of sea-lanes led west from Constantinople and the western shores of Asia Minor. The great south axis of trade across the Mediterranean led west from the coast of Asia Minor and the southern provinces (Syria, Palestine, and Egypt) in the direction of North Africa, Carthage, Sicily, Italy, Gaul, and ultimately Britain. The testimonies of pottery,¹⁷³ coins,¹⁷⁴ shipwrecks,¹⁷⁵ and hagiographical texts¹⁷⁶ are proof that traffic along this axis was dense down to the seventh century. From the capital, the route led out through the Propontis and the harbors of the Hellespont, Parion, Lampsakos, Abydos, and Elaious into the Aegean; ships sailed to Lemnos and from there toward the peninsula of Chalkidike, along the west coast of which they would approach Thessalonike. There was a long tradition behind this itinerary, described in a letter of Theodore of Stoudios dating from 797. From the exit of the Straits at Elaious to Lemnos was some 80 or 90 km, which, when the winds were favorable, could be covered in nine hours. From Lemnos to Kanastron in Pallene was a further thirteen hours.¹⁷⁷ In the ninth century, St. Gregory of Dekapolis sailed from Ephesos to Prokonnesos and then on to Ainos and Christoupolis.¹⁷⁸ As already noted, St. Sabas the Younger sailed from the landing stage of the Great Lavra monastery on Athos to Constantinople in three days, with a tail wind and a calm sea.¹⁷⁹

The island chain of the Aegean linked Constantinople and the Asia Minor coast along routes that varied according to the ship's ultimate destination. Navigation was difficult; Constantine VII describes the Aegean as "hard to sail and difficult to cross, with long waves like mountains."¹⁸⁰ From Lemnos, one of the best-known routes turned southwest and led through the North Sporades (Skiathos, Skopelos, and Paparethos). John Kameniates describes this route: "Called *Diadromoi* ["corridors"] by seafaring men, [it] has two islands on either side facing each other and running around the sea in the middle."¹⁸¹ These were the Liadromia and Chelidromia, also referred to as *Diadromoi* by Sylvester Syropoulos,¹⁸² and there was a harbor on the island of Gymno-

¹⁷³ P. Arthur, "Amphorae and the Byzantine World," *BCH*, suppl. 13 (1986): 655–60.

¹⁷⁴ J. Lafaurie and C. Morrisson, "La pénétration des monnaies byzantines en Gaule mérovingienne et visigothique du VI^e au VIII^e s.," *RN*, ser. 6, 29 (1987): 38–98.

¹⁷⁵ Parker, *Shipwrecks*, no. 446.

¹⁷⁶ *Vie de Jean de Chypre dit l'Aumonier*, ed. A.-J. Festugière (Paris, 1974), 353–54, 452–54; *Miracula Artemii*, 39.

¹⁷⁷ Cheynet and Flusin, "Du monastère ta Kathara," 204–5.

¹⁷⁸ Dvornik, *Vie de Saint Grégoire le Décapolite*, 53–54.

¹⁷⁹ *Ibid.*, 35.

¹⁸⁰ βαρύπλουν ἐστὶ καὶ δυσπέρατον καὶ κύματα μακρὰ καὶ ὄρεσιν εἰκότα . . . : *De Thematibus*, 17.30–34.

¹⁸¹ Διαδρόμους παρὰ τῶν ναυτιλλομένων ὀνομαζόμενον, δύο μὲν νήσους ἀμφιμήκεις ἐξ ἐναντίας ἀλλήλων μέσον δὲ τούτων . . . τὴν θάλασσαν περιθέουσαν . . . : *Ioannis Caminiatae De expugnatione Thessalonicae*, 67.7; see K. Amantos, "Παρατηρήσεις τινὲς εἰς τὴν Μεσαιωνικὴν Γεωγραφίαν," *ΕΕΒΣ* 1 (1924): 53–54.

¹⁸² V. Laurent, *Les mémoires du grand ecclésiarque de l'Église de Constantinople Sylvestre Syropoulos* (Paris, 1971), 540–41.

pelagesion (modern Pelagonesi or Kyra Panagia), where a twelfth-century shipwreck has been identified.¹⁸³ Sissinios, commander of the fleet of the Karabesianoï, sailed from Skiathos to Thessalonike with favorable winds, setting out one Monday night and arriving at seven o'clock on Wednesday morning.¹⁸⁴

The routes that ships would take through the Cyclades differed depending on their destination. Indications of the traffic among the islands can be gained from the rough inscriptions at Grammata Bay on Syros, which record the names and places of origin of the sailors who stopped there.¹⁸⁵ On Tenos, too, tenth-century inscriptions have been identified, noting, among other things, the passages of a bishop of Knidos, an Athenian goldsmith, and a Paphlagonian.¹⁸⁶ After the capture of Thessalonike, the Arab fleet sailed through the Cyclades on its way to Tripolis in Syria, passing Naxos, Crete, and Paphos on Cyprus. The ambassador of Leo VI stopped at Ios and Paros en route for Crete, but in 960 Nikephoros Phocas and his fleet could find no pilot to guide them to that island: the route had been forgotten.¹⁸⁷

Navigation in the Adriatic continued in the seventh and eighth centuries, with journeys becoming more frequent in the ninth century as the empire stepped up its defenses in the West.¹⁸⁸ Links with the ports of southern Italy—Brindisi and Taranto—slackened, and after the ninth century Hydrous (Otranto) took over the position of primacy and became the most important harbor for communications between the empire and southern Italy. The route from Otranto to Bouthrotos, Kerkyra, and Leukas was that taken by most travelers.¹⁸⁹

From West to East

Even in the early Christian centuries, pilgrims set out from the harbors of the western Mediterranean—in Spain, Gaul, and Italy—to make the journey to the Holy Land and the monastic communities of Egypt and Palestine. Their route took them through the ports of the southern Peloponnese, the Cyclades, Rhodes, and Cyprus before they approached their destination in the Holy Land. In the fourth century, St. Paula passed through the Straits of Messina and stopped at Methone before rounding Cape Maleas to Kythera and sailing on through the Cyclades. Rhodes and Cyprus were the last stops

¹⁸³ E. Ioannidaki-Dostoglou, "Les vases de l'épave byzantine de Pélagonnèse-Halonèse," *BCH*, suppl. 18 (1989): 157–71; Parker, *Shipwrecks*, no. 796.

¹⁸⁴ Lemerle, *Miracles de saint Démétrius*, 2:157.

¹⁸⁵ G. Kiourtzian, *Recueil des inscriptions grecques chrétiennes des Cyclades. De la fin du IIIe au VIIe siècle après J.-C.* (Paris, 2000), 137–200.

¹⁸⁶ D. Feissel, "Inscriptions byzantines de Ténos," *BCH* 104 (1980): 477–518.

¹⁸⁷ Malamut, *Les îles*, 545. For navigation in the Aegean during the period of Arab rule in Crete, see V. Christides, *The Conquest of Crete by the Arabs (ca. 824): A Turning Point in the Struggle between Byzantium and Islam* (Athens, 1984), 157–72.

¹⁸⁸ J. Ferluga, "Navigation et commerce dans l'Adriatique aux VIIe et VIIIe siècles," *ByzF* 12 (1987): 39–51.

¹⁸⁹ V. von Falkenhausen, "Réseaux routiers et ports dans l'Italie méridionale byzantine (VIe–Xe s.)," in *Ἡ Καθημερινή Ζωή στο Βυζάντιο* (Athens, 1989), 711–31.

on her voyage to the Holy Land.¹⁹⁰ The pilgrim Willibald traveled from Rome and Syracuse to Monemvasia in 722 and then sailed on to the Holy Land via Kea, Samos, and Cyprus.¹⁹¹ The flow of pilgrims from West to East never stopped, and indeed grew in strength after the time of the Crusades.¹⁹²

The eleventh century saw the beginning of a new period in the history of sea travel, with the pronounced presence in the Mediterranean, and later in the Black Sea, of the fleets of the great western naval powers. The economic progress of the West was the signal for the important Italian cities of Venice, Genoa, and Pisa to turn their attention to the coast of Byzantium and the Arab world. Now the axis of communications began to operate in reverse, and the direction of trade was from west to east. The principal axes lay through the Adriatic, along the north coast of Africa, into the eastern Mediterranean and the Aegean and then to the Black Sea via the Straits.

The Venetian ships hugged the east coast of the Adriatic (Venice, Zara, Spalato, and Ragusa) to Dyrrachion and then the chain of Byzantine islands and ports in the Ionian Sea (Kerkyra, Nikopolis, Leukas, Kephallenia, and Zakynthos). They sailed around the western and southern coasts of the Peloponnese, calling at Methone and Korone, before passing Kythera and Cape Maleas, and headed north through the Cyclades to the coast of Asia Minor and Constantinople. Another route to Constantinople lay through the Gulf of Corinth to Corinth itself, then around the coast of Attica before heading north: Euboea, Halmyros, Kitros, Thessalonike, Christoupolis, the Straits of the Hellespont, Rhaidestos, Herakleia, and Constantinople.

There was a sea-lane south to Rhodes and the southern coastline of Asia Minor, leading to Attaleia and also to Cyprus, with Syria as the ultimate destination: Antioch, Tripolis, Akra, and Tyre. This route was often used as a link between Venice and Crete via the Peloponnese, and from Crete on to Alexandria and Syria.¹⁹³

Genoese vessels destined for the empire set out from their home port along the west coast of Italy, passing through the Straits of Messina and then following the coastline of Calabria and Apulia. When they reached Otranto, they would turn across the strait to Kerkyra and then make for Kythera via the islands of Leukas, Kephallenia, Zakynthos, Sapienza, Venetiko, and Elaphonnesos (Cervi). Two different routes might be taken from Cape Malea onward: one headed for Monemvasia, past the islets of Velopoula and Gerakounia (Phalkonera) and then out into the Aegean (Chios and Mytilene) before reaching Tenedos and the Propontis. The other turned south to Cyprus and Egypt via Melos, Naxos, Amorgos or Astypalaia, and Rhodes.

After 1261, these routes extended to include the Black Sea. From Pera, the ships would follow the west coast of the Black Sea to the Crimea, Soldaia, and Caffa (Theodosia). Via the Cimmerian Bosphoros, Caffa was linked to Tana, at the mouth of the Tanais River, and a land route led off into central Asia. Another route, along the south

¹⁹⁰ *Hieronymi, Ep.* 108, in *Saint Jérôme, Lettres*, ed. J. Labourt (Paris, 1955), 5:165.

¹⁹¹ T. Tobler and A. Mollinier, *Itinera Hierosolymitana* (Geneva, 1879), 1:254–56.

¹⁹² Malamut, *Les îles*, 547–52.

¹⁹³ Lilie, *Handel und Politik*, 243–53.

shore of the Black Sea, would take sailors to Trebizond and then to the Cimmerian Bosphoros at Kers. The Genoese route south from Pera led through the islands of the Aegean and along its coast: Adramyttion, Phokaia, Smyrna, Chios, Rhodes, and ultimately Egypt.¹⁹⁴

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¹⁹⁴ M. Balard, *La Romanie génoise: XIIe–début du XVe siècle*, 2 vols. (Genoa–Rome, 1978), 2:849–68.

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