

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](http://www.doaks.org/etexts.html)

# Aspects of the Byzantine City, Eighth–Fifteenth Centuries

Charalambos Bouras

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As a theoretical subject, the Byzantine city from the end of the iconoclastic controversy to the final overthrow of the empire in 1453 is highly extensive and complex. This is not only because the cities themselves were numerous, but also because during that period of almost eight centuries there was a dynamic of change whose results differed in each separate case. There has been increased scholarly interest in the subject in recent years, which can be attributed to a turn toward a study of the built environment on the large scale in connection with its architecture, to a search for some measure of continuity in urban life after ancient times, and to a growing trend toward the study of productive relations, given that the secondary sector of the economy was always among the definitive functions of cities, no less in Byzantium than elsewhere.<sup>1</sup>

However, these are only three of the numerous and frequently overlapping aspects of the subject. The history of the cities themselves, the evolution of their institutions<sup>2</sup> and their social structures, and the development of their architecture and town planning<sup>3</sup> are also topics of interest. Where Byzantine cities are concerned, matters are far

This chapter was translated by John Solman.

<sup>1</sup> A partial bibliography of works on Byzantine cities and towns would include the following: A. P. Kazhdan, “‘Vizantiiskie goroda,’ v. VII–IX vv.,” *SovArh* 21 (1954): 164–88; idem, *Derevnia i gorod v Vizantii IX–XI vv.* (Moscow, 1960), chaps. 4–5; idem, “La ville et le village à Byzance au XIe–XIIe siècles,” *XIIe Congrès International des études byzantines: Rapport collectif, Ochrid, 1961* (Belgrade, 1964), 31–54 (repr. in *Féodalisme à Byzance* [Paris, 1974], 75–89); V. Hrochová, “Les villes byzantines au 11e–13e siècles: Phénomène centrifuge ou centripète?” *XV Congrès International des études byzantines: Rapport* (Athens, 1976), 3–14; A. P. Kazhdan and A. Wharton Epstein, *Change in Byzantine Culture in the Eleventh and Twelfth Centuries* (Berkeley, 1985), 31–48; P. Tivčev, “Sur les cités byzantines au XI–XIII siècles,” *BBulg* 1 (1962): 145–82; C. Mango, *Byzantium: The Empire of New Rome* (London, 1980), 60–87; C. Foss and A. Cutler, “Cities,” *ODB* 464–66; C. Foss, “Archaeology and the Twenty Cities of Byzantine Asia,” *AJA* 81 (1977): 469–86; W. Brandes, *Die Städte Kleinasiens im 7. und 8. Jahrhundert* (Amsterdam, 1989); A. Bryer, “The Structure of the Late Byzantine Town: Dioikismos and Mesoi,” in *Continuity and Change in Late Byzantine and Early Ottoman Society*, ed. A. Bryer and H. Lowry (Birmingham–Washington, D.C., 1986), 263–80.

<sup>2</sup> See, in particular, E. Kirsten, “Die Byzantinische Stadt,” in *Berichte zum XI. Internationalen Byzantinistenkongress* (Munich, 1958), 1–48.

<sup>3</sup> J. Irmscher, “Byzantinischer Städtebau,” in *Stadtbaukunst im Mittelalter*, ed. D. Dolgner (Berlin, 1990), 48–52; Ch. Bouras, “City and Village: Urban Design and Architecture,” *JÖB* 31.1 (1981):

from simple: on the one hand, we are far distant from them in time, and on the other, our information about them is the fruit of research carried out unsystematically and on the basis of personal preference and chance.

Where the economic history of Byzantium is concerned, the phenomenon of the cities of the empire is of great significance,<sup>4</sup> not simply because it was there, as I have noted, that secondary and tertiary production developed, but also because the cities are bound up with questions of demography, spatial planning, and the distribution and consumption of products. This chapter discusses the Byzantine city in terms primarily of its economic activity, form, and function, with the assistance of information drawn directly from the material objects made available to scholars by archaeology in the broad sense of the term. This is not to say that reference is not made, as appropriate, to information from the written sources: historical texts, chronicles, archaeological texts, letters, treatises on strategy, and so on. However, the emphasis is on what has remained of the built environment of each city and on the movable finds from excavations that are of direct or indirect significance for the economy.

The existing data are disheartening for the researcher. Unfortunately, archaeological evidence is very scanty, and only in a tiny number of instances is it capable of providing us with a satisfactory picture of a city, or even part of a city, as it was in Byzantine times. With the exception of fortifications and churches (and unlike the situation in the medieval cities of western Europe), buildings tend to have survived only to a height of a few courses of masonry, or in the form only of their foundations, and to have required excavation to make them accessible.

Although archaeology<sup>5</sup> is of obvious significance<sup>6</sup> for our knowledge of the material culture of Byzantium and of the Byzantine world in general, and although the primary information it supplies is of inestimable value, the results to date for our knowledge of the Byzantine city are sparse, for the following reasons. The Byzantine strata of many cities have been completely or partly destroyed, without being studied, by subsequent habitation of the site. Such instances include Constantinople itself, Thessalonike, and to some extent Thebes. For a variety of reasons,<sup>7</sup> no excavations have been conducted in large parts of the Byzantine cities, and the picture we have is a fragmentary one.

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611–53. References to this paper in the footnotes are made only in instances of subjects of special economic interest. The analytical documentation of archaeological finds in cities made up to 1981 is also taken as familiar and is not included here.

<sup>4</sup> Typically, in the general work by A. Guillou, *La civilisation byzantine* (Paris, 1974), 243ff, matters concerning cities are dealt with in the chapter on the economy of Byzantium.

<sup>5</sup> See also T. Gregory and A. Kazhdan, "Archaeology," *ODB*, 152–53; A. Guillou, "Technologie," in *Akten XVI. Internationalen Byzantinistenkongress*, ed. W. Hörandner (Vienna, 1981), 1.1:19–41.

<sup>6</sup> For the immediately preceding period, see J.-P. Sodini, "La contribution de l'archéologie à la connaissance du monde byzantin (IV–VII siècles)," *DOP* 47 (1993): 139–84, and J. Russell, "Transformations of Early Byzantine Urban Life: The Contribution and Limitations of Archaeological Evidence," in *The 17th International Byzantine Congress. Major Papers* (Washington, D.C., 1986), 137–54. See also P. Lemerle, *Les plus anciens recueils des Miracles de Saint-Démétrius et la pénétration des Slaves dans les Balkans*, 2 vols. (Paris, 1979–81), 2:65, "Le témoignage de l'archéologie."

<sup>7</sup> The most important is the prevention of such excavations by the 18th- and 19th-century buildings now occupying the sites. Kastoria and the Plaka district of Athens are typical examples.

Typical cases include Corinth,<sup>8</sup> about which we have much knowledge but even more questions, Argos, Arta, and the central section of Pergamon. Much of the excavation has been carried out in a fragmentary, random manner. In Greece, such digs are called “rescue excavations,”<sup>9</sup> and the picture they produce is fragmented and manifestly incomplete. Excavations of this type are the rule in cities such as Thebes, Lakedaimon, Chalkis, and Didymoteichon.

In addition, the nature of the finds themselves is often an obstacle to a study of the situation. Byzantine houses tended to be built in a utilitarian manner, with poor workmanship and materials being used for the second or third time, and incorporating elements from earlier structures, as a result of which it is frequently impossible to distinguish the building phases of the finds and date them.<sup>10</sup> This prevents archaeologists from reconstructing the fabric of the city in each period. Among characteristic instances of this situation are the groups of buildings (as yet unpublished) beneath Dioiketeriou Square in Thessalonike, on a site owned by the Hellenic Telecommunications Organization in Argos, and by the church of St. Nicholas in Thebes.

Rescue excavations conducted under the pressure of time can lead to other difficulties, including incomplete stratigraphical studies, detachment of the movable finds from the traces of buildings,<sup>11</sup> and incomplete interpretations of items later destroyed by lack of preservation or the flimsiness of the materials from which they were originally made, thus delaying or preventing publication.<sup>12</sup> There are thus constraints that archaeology is sometimes incapable of overcoming, and these have already been noted.<sup>13</sup>

The outcome of this impossibility of applying the proper method is that the archaeological picture of important cities of the empire (such as Thessalonike, Nicaea, or Corinth) is disappointing, while there are small provincial centers (such as Kherson or Preslav) that happened not to be inhabited at a later date, could thus be excavated systematically and without pressure, and have produced impressive results.

In cities,<sup>14</sup> the so-called new archaeology, which focuses on the remains of material

<sup>8</sup> See G. D. R. Sanders, “Corinth,” *EHB* 647, on the situation as it is today in Corinth.

<sup>9</sup> They take place when the owner of a piece of land wishes to construct a new building whose foundations will cut through the Byzantine strata. Of course, the boundaries of modern plots of land bear no relation to the medieval fabric of the city, and this means that it is rare for a medieval building to be excavated in its entirety. It is thus impossible to plan these rescue excavations or impose a uniform system of assessing the finds from them. The results of such excavations are published, in Greece, in the *Χρονικά τοῦ Ἀρχαιολογικοῦ Δελτίου*.

<sup>10</sup> The examples that spring first to mind, among many others, are in *ΑΔ* 35.2 (1980): 111–113 and 158–59; *ΑΔ* 36.2 (1981): 367; *ΑΔ* 37.2 (1982): 165–69.

<sup>11</sup> This was usually the result of initiatives taken by classical archaeologists in a hurry to reach the strata of classical antiquity. For an example of detachment, see G. D. R. Sanders, *Excavations at Sparta* = *BSA* 88 (1993), “Medieval Pottery,” 251–86, pls. 23–26.

<sup>12</sup> See G. Daux, *Les étapes de l'archéologie* (Paris, 1958), 106.

<sup>13</sup> Russell, *Transformations*, 139, 150.

<sup>14</sup> “New archaeology” focuses largely on the villages and the countryside, where the primary production of commodities took place. See A. Guillou and L. Mavromatis, “Μεσαιωνική Ἀρχαιολογία,” *Βυζαντινά* 6 (1976): 187–89; E. Zanini, *Introduzione all'archeologia Bizantina* (Rome, 1994), chaps. 1–4. For the periods examined here, see principally pp. 164–71.

culture and on information of historical value, has made use primarily of pottery (since earthenware vessels do not deteriorate over time) and coins. The obviously great significance of the latter as evidence for dating archaeological strata, and above all as sources for economic history, is developed elsewhere. Unfortunately, however, opportunities for implementing “new archaeology” are few and far between, especially in Greece and Turkey, where the most important post-iconoclastic cities were located.

Apart from archaeological excavation, the study of a medieval city involves the following stages of work: (a) unification of all the surveys of the built evidence (produced either by excavation or by investigation of the surviving buildings) into a single general plan of the situation as it is today; (b) reconstruction of the urban fabric during the various periods; (c) identification of the functions of rooms and buildings and of land uses; with the assistance of movable finds, emphasis on matters connected with the process of production; (d) reciprocal interpretation, where feasible, involving the finds and the written information; and (e) a study of the growth of each city, settlement, or ekistic unit and interpretation of that growth in historical terms. Needless to say, this ideal study model has never been completely applied in even a single instance of a Byzantine city. The most successful approaches have been in those few urban centers where, as noted, systematic excavations were possible.<sup>15</sup>

It should also be borne in mind that in many cases the only urban elements suitable for study are the fortification walls and the surviving churches, whose significance for economic history is limited and in any case indirect. However, walls did determine the area of the medieval city, and this seems to be connected with another important desideratum: estimates of population. Yet there are serious reservations here as to the ratio of the walled area to the number of inhabitants of the city.

The foregoing can be seen as an introduction to the methodological problems and true conditions in which research into Byzantine cities is carried out; it serves to show the extent to which the subject is unready for academic treatment. The text that follows is a classification of certain fragmentary yet accessible information and an attempt to draw some conclusions of real interest for the economic history of Byzantium.

The capital of the empire, Constantinople, has not been included in this examination for a number of reasons: the empire was structured in a way that endowed the city with priority in every respect and with a significance quite different from that of every other city; there is very little purely archaeological information about Constantinople, although the written sources provide an abundance of data; thanks largely to the city's geographical position, to the state monopolies based there,<sup>16</sup> to the number of specialized craftsmen (such as experts in wall-mounted mosaics), and to the large population, economic activity in Constantinople was much greater than in any other city of the empire;<sup>17</sup> and Constantinople was also a major consumer center, into which flowed the

<sup>15</sup> As noted above, representative examples are to be found in Kherson, Preslav, and Tŭrnovo.

<sup>16</sup> Especially of luxury goods, weapons, and other items as circumstances dictated. See A. J. Cappel, “Monopoly,” *ODB*, 1399.

<sup>17</sup> See Guillou, *La civilisation*, 305–8.

goods produced in the provinces. Eloquent testimony to this is to be found in an extract from a letter by Michael Choniates.<sup>18</sup>

It is generally accepted that for the lengthy period of two hundred years after the late sixth century Byzantium was in a state of constant crisis, struggling to survive under unremitting external pressure. It would be an error to generalize, since, on the one hand, there are chronological and geographical variations and, on the other, the collapse did not take place overnight or throughout the entire state. Even so, the discontinuation of the ancient mode of urban life in the provinces and the aspect of the cities (as it emerges, primarily, from archaeological research) are such as to persuade us<sup>19</sup> that there was indeed a general crisis during the so-called Dark Ages and that the functions of the cities became confined to those of defense. Many cities were abandoned altogether, and there was a major drop in the population. However, for the reasons already explained, the important historical problems connected with the continuity or discontinuity of the cities are not ready for solution, and they certainly do not form part of the direct object of this chapter.<sup>20</sup>

The revival and slow recovery of the cities and towns was, once again, a phenomenon that varied chronologically and geographically. It began in the late eighth century and built up, at an accelerating pace, to a climax in the tenth, eleventh, and twelfth centuries. Little by little, the “ruralized” fortress town gave way once again to cities with a secondary sector of production, urban amenities, and a growing population. However, it is indicative of their continued major importance as defensive refuges that they retained the name *kastron* to the end of the empire.

The middle Byzantine cities of Greece and Asia Minor can be divided into three

<sup>18</sup> Sp. Lambros, *Μιχαὴλ Ἀκομινάτου τοῦ Χωνιάτου τὰ σωζόμενα* (Athens, 1880), 2:83: Οὐ Μακεδονίας καὶ Θράκης καὶ Θεσσαλίας πυροφόροι πεδιάδες ὑμῖν γεωργοῦνται, οὐχ ὑμῖν ληνοβατεῖται οἶνος ὁ Εὐβοεὺς καὶ Πτελεατικὸς καὶ Χίος καὶ Ρόδιος, οὐ τὰς ἀμπεχόνας ὑμῖν ἱστουργοῦσι Θηβαῖοι καὶ Κορίνθιοι δάκτυλοι, οὐ χρημάτων πάντες ὁμοῦ ποταμοὶ ὡς ἐς μίαν θάλασσαν τὴν βασιλίδα πόλιν συρρέουσιν; (Are not the wheat-bearing plains of Macedonia and Thrace and Thessaly farmed for you, and is not the wine of Euboea and Pteleon and Chios and Rhodes trodden for you, and are not cloaks woven for you by the fingers of Thebans and Corinthians, and do not all the rivers of money alike pour, as if into one sea, into the imperial city?). On the topography of Constantinople, see the contribution of P. Magdalino, “Medieval Constantinople: Built Environment and Urban Development,” *EHB* 529–37.

<sup>19</sup> The fact that we have no information either from the written sources or from archaeology is nothing more or less than an argument *ex silentio*. It can be assumed that a whole host of factors, varying according to circumstance and of which we are ignorant, led to the result in question, which is itself unclear in character. See also Russell, “*Transformations*.”

<sup>20</sup> For a very brief account, see the three publications by Kazhdan cited above, note 1, and his review of C. Foss, *Byzantine and Turkish Sardis* (Cambridge, Mass., 1976) in *Βυζαντινά* 9 (1977): 481–83. See also Sp. Vryonis, Jr., *The Decline of Medieval Hellenism in Asia Minor and the Process of Islamization from the Eleventh through the Fifteenth Century* (Berkeley, 1971), 7–14; idem, “An Attic Hoard of Byzantine Gold Coins (668–741) from the Thomas Whittemore Collection,” *Mélanges Georges Ostrogorsky = Zbornik Radova* 8 (1963): 1:291–300; D. Zakythenos, *Ἡ Βυζαντινὴ Ἑλλάς, 392–1204* (Athens, 1965), 36–52; G. Ostrogorsky, “Byzantine Cities in the Early Middle Ages,” *DOP* 13 (1959): 45–66; idem, “Byzantium in the Seventh Century,” *DOP* 13 (1959): 3–21; C. Mango, *Byzantine Architecture* (New York, 1976), 161; Guillou, *La civilisation*, 263–304. See also F. Trombley, “Byzantine ‘Dark Age’ Cities in a Comparative Context,” in *ΤΟ ΕΛΛΗΝΙΚΟΝ: Studies in Honor of Speros Vryonis, Jr.*, vol. 1, *Hellenic Antiquity and Byzantium*, ed. J. S. Langdon et al. (New York, 1993), 429–49.

categories: those that were long established and had survived the crisis, old cities that were revived, and new cities. The distinction between the first two categories is not always easy to draw. The fact that bishoprics and metropolitan sees continued to exist throughout the Dark Ages is evidence of survival,<sup>21</sup> but not proof. The resettling of a site of strategic and productive importance where there was an abundance of building materials does not coincide precisely with the meaning of the term *revival*; in effect, these, too, were new towns, without memories or experiences of the old cities on whose ruins they stood. In cities that survived, archaeology may reach the conclusion that a section was abandoned for a long period (e.g., the southern extremity of the Kadmeia of Thebes<sup>22</sup>) or that the entire city moved to a site nearby: Ephesos shifted to the hill of Theologos,<sup>23</sup> and Colossae,<sup>24</sup> too, relocated to a nearby height and changed its name to Chonai.

In addition to Thessalonike, the following cities are among those that survived without interruption from antiquity: Nicaea,<sup>25</sup> Smyrna,<sup>26</sup> Ankyra, Chalcedon, and distant Kherson;<sup>27</sup> in Greece, Athens, Corinth, and very probably Thebes. The cities that were abandoned and later revived include Pergamon,<sup>28</sup> Patras (whose inhabitants took refuge in Calabria for a while),<sup>29</sup> Lakedaimon (whose population also fled, for a time, to Monemvasia), Karyoupolis,<sup>30</sup> Stratos in Akarnania<sup>31</sup> (though we do not know what it was called in the period under consideration), Miletos,<sup>32</sup> Priene,<sup>33</sup> Sardis<sup>34</sup> (which became a small town around a strong fortification), Attaleia, Arta (on the ruins of ancient Ambrakia), and Polystylon, Peritheorion, and Mosynoupolis in western Thrace.<sup>35</sup> As

<sup>21</sup> See the observations in Vryonis, *Decline*, 8 and 9, and in particular n. 27.

<sup>22</sup> See A. Keramopoulos, "Θηβαϊκά," *ΑΔ* 3 (1917): 11, 14, 17, 19, 20.

<sup>23</sup> C. Foss, *Ephesus after Antiquity: A Late Antique, Byzantine and Turkish City* (Cambridge, 1979), 103ff.

<sup>24</sup> W. M. Ramsay, *The Cities and Bishoprics of Phrygia* (Oxford, 1895), 1:108–216.

<sup>25</sup> For the city of Nicaea, its economy, and the relevant bibliography, see M. Angold, *A Byzantine Government in Exile: Government and Society under the Laskarids of Nicaea (1204–1261)* (Oxford, 1975), *passim*, but esp. 109, 111.

<sup>26</sup> Foss, "Twenty Cities," 481, 482.

<sup>27</sup> See A. Bortoli and M. Kazanski, "Kherson and Its Region," *EHB*.

<sup>28</sup> See K. Rheidt, "The Urban Economy of Pergamon," *EHB*, and *idem*, *Die Stadtgrabung*, pt. 2, *Die Byzantinische Wohnstadt* (Berlin, 1991), with a complete analysis of the finds. See also the review of this book by U. Peschlow in *BZ* 87 (1993–94): 151–54, and K. Rheidt, "Byzantinische Wohnhäuser des 11. bis 14. Jahrhunderts in Pergamon," in *DOP* 44 (1990): 195–204.

<sup>29</sup> According to the Chronicle of Monemvasia. The first reference that springs to mind is A. Bon, *Péloponnèse byzantin* (Paris, 1951), 34.

<sup>30</sup> See R. Etzeoglou, "Καρυούπολις, μία έρειπομένη βυζαντινή πόλη," *Λακ.Σπ.* 9 (1988): 3–60.

<sup>31</sup> See E. L. Schwander, "Stratos am Acheloos, ή πόλις φάντασμα," in Φηγός, Τιμητικός τόμος για τόν καθηγητή Σωτήρη Δάκαρη (Ioannina, 1994), 459–65.

<sup>32</sup> W. Müller-Wiener, "Mittelalterliche Befestigungen in Südlichen Ionien," *IstMitt* 11 (1961): 28–32.

<sup>33</sup> *Ibid.*, 49–52.

<sup>34</sup> C. Foss, *Byzantine and Turkish Sardis* (Cambridge, Mass., 1976), and C. Foss and J. A. Scott, "Sardis," *EHB*.

<sup>35</sup> C. Bakirtzis, "Western Thrace in the Early Christian and Byzantine Periods," *ByzF* 14 (1989): 43–58. The three cities were built on the sites of Abdera, Anastasioupolis, and Maxianoupolis, respectively. See also N. Moutsopoulos, "Buru-Kale," *IBI Bulletin* 42 (1984): 101–10 (Anastasioupolis, Peritheorion 2).

examples of new cities produced by synoecism during and after the Dark Ages, one could mention Monemvasia,<sup>36</sup> Servia,<sup>37</sup> Katoche,<sup>38</sup> Strobilos,<sup>39</sup> and a number of towns in what is now Bulgaria,<sup>40</sup> Preslav,<sup>41</sup> and others.<sup>42</sup> In the late Byzantine period, the renewed conditions of insecurity in Greece dictated the construction of new cities on strong sites: these include Mistra (in 1264, with Lakedaimon being abandoned), Geraki,<sup>43</sup> Mouchli,<sup>44</sup> Rogoi,<sup>45</sup> and Angelokastron.<sup>46</sup>

The phenomenon that accompanied the growing prosperity of the provinces after the mid-eleventh century was the expansion of some cities outside their walls. This can be studied in the cities of Thebes, Monemvasia, and Athens. In Thebes,<sup>47</sup> around the fortified Kadmeia,<sup>48</sup> settlements were established, principally during the twelfth century, on the hills called Kastellia, Hagioi Theodoroi, Ismeneion, and Ampheion. New finds<sup>49</sup> have confirmed the striking size of the area over which the city expanded. In Monemvasia, the lower city was constructed along the south shore of the promontory;<sup>50</sup> finds from this site date its founding to the middle Byzantine period.<sup>51</sup> Our picture of the settlements outside the late Roman walls of Athens, in the ancient Agora, in the Kerameikos, and in the area of the temple of Olympian Zeus, remains unchanged.<sup>52</sup>

<sup>36</sup> H. Kalligas, *Byzantine Monemvasia: The Sources* (Monemvasia, 1990), passim.

<sup>37</sup> A. Xyngopoulos, *Tà μνημεία τῶν Σερβίων* (Athens, 1957).

<sup>38</sup> V. Katsaros, "Συμβολὴ στὴν ἱστορία καὶ τὴν μνημειακὴ τοπογραφία τοῦ χωριοῦ Κατοχὴ Ἀκαρνανίας," *Ἑλληνικά* 30 (1977–78): 307–20.

<sup>39</sup> C. Foss, "Strobilos and Related Sites," *AnatSt* 38 (1988): 147–74.

<sup>40</sup> Kazhdan and Epstein, *Change*, 33 nn. 33–38.

<sup>41</sup> See I. Jordanov, "Preslav," *EHB*.

<sup>42</sup> See Bakirtzis, "Western Thrace"; the new cities included Maroneia, Synaxis by Maroneia, Xanthia, Gratzianou, and Paterma.

<sup>43</sup> For the settlement at Kastro, see P. Simatou and R. Christodoulou, "Παρατηρήσεις στὸν μεσαιωνικὸ οἰκισμὸ τοῦ Γερακίου," *Δελτ.Χριστ.Ἀρχ.Ἐτ.* 15 (1989–90): 67–88.

<sup>44</sup> M. Moutsopoulos, "Βυζαντινὰ σπίτια στὸ Μουχλί Ἀρκαδίας," *Βυζαντινά* 13.1 (1985): 321–53.

<sup>45</sup> G. Sotiriou, "Τὸ κάστρο τῶν Ρωγῶν," *Ἡπειρωτικὰ Χρονικά* 2 (1927): 98–109, and *ΑΔ* 35.2 (1980): 323–24.

<sup>46</sup> A. K. Orlandos, "Τὸ φρούριον τοῦ Ἀγγελοκάστρου," *Ἀρχ.Βυζ.Μνημ.Ἑλλ.* 9 (1961): 49–73.

<sup>47</sup> For questions relating to Thebes, see A. Louvi-Kizi, "Thebes," *EHB*, with recent bibliography. See also S. Symeonoglou, *The Topography of Thebes* (Princeton, N.J., 1985), 156–72. For important information about the Byzantine city, see N. Oikonomides, "The First Century of the Monastery of Hosios Loukas," *DOP* 46 (1992): 253ff.

<sup>48</sup> Bouras, "City and Village," 624–25 nn. 98–99, and Symeonoglou, *Topography*, fig. 42.

<sup>49</sup> *ΑΔ* 33.2 (1975): 100, pl. 39a (the Koropoulos site); *ΑΔ* 34.2 (1979): 166; *ΑΔ* 37.2 (1982): 170; *ΑΔ* 41.2 (1986): 27, drawing 3; *ΑΔ* 41.2 (1986): 29–30, pl. 52c (New Thebes, southeast of the Kadmeia). The wall of Byzantine Thebes, with a special arrangement to allow the passage of a seasonal river, has been identified near the railway station (unpublished).

<sup>50</sup> It is very difficult to date with accuracy buildings in the lower city, such as the church of Christ Helkomenos, which are supposed to be older. Traces of earlier structures have been discovered in the upper city. See Kalligas, *Byzantine Monemvasia*, 30 n. 41. For a topographical drawing of the town immediately after the war of independence, in which elements of the medieval urban fabric have survived, see B. Dorovines, "Μονεμβασία: Ὁ οἰκισμὸς καὶ τὰ δημόσια κτήρια κατὰ τὴν Καποδιστριακὴ ἐποχὴ," *Ἀρχαιολογία* 54 (1995): 69–80.

<sup>51</sup> *ΑΔ* 29.2 (1973–74): 420–21, and Kalligas, *Byzantine Monemvasia*, 65–66 n. 84.

<sup>52</sup> See Bouras, "City and Village," 625–26 nn. 110–31, and M. Kazanaki-Lappa, "Medieval Athens,"

Unfortunately, this phenomenon cannot be studied in the Byzantine cities where the location of the circuit of walls has not been determined, as in the cases of Argos, Lakadimon, Euripos, and many other instances. However, the scanty evidence does point to a process of urban expansion known to us from the cities of western Europe, here interrupted by the Frankish conquest: the growth of a settlement (called a *bourgo* or a *varoshi*) outside the castle, which might or might not have walls and which was easier to adapt to the urban functions of manufacturing and trade.<sup>53</sup>

It has to be stressed once more that the evolutionary pattern of Byzantine cities briefly described above varied to some extent from time to time and from place to place.<sup>54</sup> The economy began to revive, and cities to become more active, at an earlier date in Asia Minor, where the process also came to an end earlier, after 1071, with the permanent settlement in the area of the Seljuks. In Greece, it was only at a later time, with the recovery of Crete and the end of the Bulgarian wars, that development could begin. During the period of the Laskarid emperors, some of Asia Minor prospered again (on a local level), and this is manifest both in the vitality of the settlements<sup>55</sup> and in the general building activities.<sup>56</sup>

This is not the place for an examination of the physical parameters of choice of location and scope for growth of the Byzantine cities, particularly since very many of them were built on the sites of ancient cities founded under quite different conditions. Questions of terrain are connected primarily with the natural defensive strength of the site and the very considerable attention that the inhabitants paid to defense. This also applied to water resources, which will be dealt with in connection with city water supplies. Where communications (discussed at length elsewhere)<sup>57</sup> were concerned, Byzantine cities differed from those of medieval Europe by rarely<sup>58</sup> being located on navigable rivers; they communicated with one another principally by sea. This is not to say that overland routes and transportation using pack animals were of little importance: the construction or maintenance of a bridge<sup>59</sup> was significant on the local scale, and

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*EHB* 642–44, which makes use of the information provided by the *praktikon* (E. Granstrem, I. Medvedev, and D. Papachryssanthou, “Fragment d’un *praktikon* de la région d’Athènes (avant 1204),” *REB* 34 [1976]: 5–44). Unfortunately, the deaths of I. Travlos and A. Frantz make it unlikely that the middle Byzantine settlement of the Agora in Athens will ever be published; they had undertaken to study the remains of houses on a site that has now vanished. See, in this respect, I. Travlos, *Πολεοδομική εξέλιξις της πόλεως τῶν Ἀθηνῶν* (Athens, 1960), 151 n. 3.

<sup>53</sup> A full picture of the phenomenon is to be found in cities that developed at a later date, under foreign sovereignty, such as Crete, Rhodes, Chios, and Cyprus.

<sup>54</sup> Kazhdan and Epstein, *Change*, 37, 38; Vryonis, *Decline*, 6–34; Bouras, “City and Village,” 633.

<sup>55</sup> Such as those of Pergamon (see Rheidt, “Pergamon”) and Ephesus (cf. Foss, *Ephesus*, 136, 137).

<sup>56</sup> H. Buchwald, “Laskarid Architecture,” *JÖB* 28 (1979): 261–96.

<sup>57</sup> See A. Avramea, “Land and Sea Communications, Fourth–Fifteenth Centuries,” *EHB*.

<sup>58</sup> Katoche is one such instance; see Katsaros, “Συμβολή.”

<sup>59</sup> P. Armstrong, W. G. Cavanagh, and G. Shirpley, “Crossing the River,” *BSA* 87 (1992): 293–310 (with a reference to the bridge over the Eurotas, known from an inscription of 1027). See also N. Moutsopoulos, *Ἡ ἀρχιτεκτονική τῶν ἐκκλησιῶν καὶ τῶν μοναστηριῶν τῆς Γορτυνίας* (Athens, 1956), 121–24 (of 1440, near Karytaina).

some of the large ancient roads from city to city seem still to have functioned,<sup>60</sup> even though for centuries they had been completely abandoned. Cities sited at the intersection of land and sea routes—such as Constantinople itself, Corinth,<sup>61</sup> and even distant Kherson<sup>62</sup>—or where major roads arrived in safe harbors (such as Dyrrachion and Thessalonike) were clearly in a position of advantage.

The walls that surrounded the cities are usually directly accessible to archaeologists.<sup>63</sup> As buildings, Byzantine walls were of a dynamic nature in the sense that they could be adapted in accordance with needs, being repaired after sieges and following rules of economy and functionality where the art of war was concerned. It is characteristic that in the cases of cities such as Constantinople,<sup>64</sup> Thessalonike,<sup>65</sup> and Nicaea,<sup>66</sup> which were very heavily and systematically fortified during the fifth century, the walls did not remain unchanged over the centuries. The picture is even more instructive in the provincial cities of Asia Minor and Greece, where fortifications were raised under the pressure of circumstances, reusing ancient materials and on the principle of keeping the length of each section to a minimum so as to minimize the number of warriors that would be required. It was far from uncommon for walls to be built above sections, or on the foundations, of earlier fortifications (dating from ancient Greek or late Roman times, or constructed under Justinian), and this in turn sometimes imposed constraints on the medieval city (size, position of towers and gates, etc.).

As a rule, fortified Byzantine cities possessed an acropolis, of limited area and strictly military in nature, which in the case of an enemy attack would be the last line of defense. To control the acropolis was to control the city. Indeed, in Thessalonike there was a separate enclave inside the acropolis—the Heptapyrgion<sup>67</sup>—and there seems to have been a similar structure in Berroia,<sup>68</sup> though it has not survived. In fortified monasteries, which were miniature cities,<sup>69</sup> the role of the acropolis was played by a strong square tower.<sup>70</sup>

<sup>60</sup> See Foss and Scott, “Sardis,” 615, and C. Mango, “Egnatia, Via,” *ODB* 679; cf. Avramea, “Communications,” 62–63.

<sup>61</sup> For the problem of the operation of the Diolkos at Corinth, see Sanders, “Corinth,” 650. Cf. R. Stillwell et al., *Introduction, Topography, Architecture*, Corinth I.1 (Cambridge, Mass., 1932), 49, 50, and G. Raepsaet, “Le diolkos de l’isthme à Corinthe: Son tracé, son fonctionnement,” *BCH* 117 (1993): 233–56, esp. 243, 247, 255.

<sup>62</sup> Bortoli and Kazanski, “Kherson,” 659. The city stood on an excellent site at the estuary of important navigable rivers.

<sup>63</sup> See C. Foss and D. Winfield, *Byzantine Fortifications: An Introduction* (Pretoria, 1986).

<sup>64</sup> A. M. Schneider and B. Meyer, *Die Landmauer von Konstantinopel*, 2 vols. (Berlin, 1943); B. C. P. Tsangadas, *The Fortification and Defense of Constantinople* (New York, 1980).

<sup>65</sup> O. Tafrafi, *Thessalonique au quatorzième siècle* (Paris, 1913), 30–114; J.-M. Spieser, *Thessalonique et ses monuments du IV<sup>e</sup> au VI<sup>e</sup> siècle* (Paris, 1984), 25–80; T. Gregory, “Thessalonike,” *ODB* 2072–73.

<sup>66</sup> A. M. Schneider and W. Karnapp, *Die Stadtmauer von Iznik* (Berlin, 1938); Foss and Winfield, *Fortifications*, 79–117, figs. 261–81.

<sup>67</sup> Tafrafi, *Thessalonique*, 145, 193. *AD* 35.2 (1980): 378; *AD* 36.2 (1981): 308.

<sup>68</sup> *Ioannis Cantacuzeni Historiarum libri quattuor*, ed. L. Schopen (Bonn, 1831–32), 3:120 (IV.18) (hereafter Kantakouzenos).

<sup>69</sup> A. K. Orlandos, *Μοναστηριακὴ ἀρχιτεκτονικὴ* (Athens, 1958), 7.

<sup>70</sup> *Ibid.*, 134–37.

There are numerous examples that allow us to study the form of the walls and the location and area of the acropolis. At Corinth<sup>71</sup> and Argos<sup>72</sup> the acropolis stood at some distance from the town. In Thebes, things are not so clear; the acropolis may have occupied the north extremity of the Kadmeia, where the palace and the strong Frankish tower later stood.<sup>73</sup> In Athens,<sup>74</sup> there are still the problems<sup>75</sup> of the ancient walls (which the *praktikon* calls “imperial”) and of dating Rizokastro.<sup>76</sup> In Asia Minor, we possess important information about the fortifications of Ankyra,<sup>77</sup> Miletos,<sup>78</sup> Priene,<sup>79</sup> Smyrna,<sup>80</sup> and Philadelphia.<sup>81</sup> Information has been published recently about the Byzantine fortresses of Larissa,<sup>82</sup> Pangaion,<sup>83</sup> Naupaktos,<sup>84</sup> Ioannina,<sup>85</sup> Drama,<sup>86</sup> Rhodes,<sup>87</sup> and Kherson.<sup>88</sup>

In many Byzantine cities, a cross-wall (*diateichisma*) has survived. Its exact function is not known for certain, but it provided an extra line of defense. In Constantinople, the earlier cross-wall built by Constantine was retained, and we know that the area

<sup>71</sup> It is not known whether the commander’s seat was permanently on the Acrocorinth or only moved there in emergencies. See Sanders, “Corinth,” 649–50.

<sup>72</sup> The Byzantine castle of Argos underwent major alterations under Frankish rule. See A. Bon, *La Morée franque*, 2 vols. (Paris, 1969), 2: pls. 134–36, 139.

<sup>73</sup> Louvi-Kizi, “Thebes,” 635, and Symeonoglou, *Topography*, 161, 164, 229.

<sup>74</sup> Cf. Kazanaki-Lappa, “Medieval Athens,” 641, 643; K. M. Setton, “The Archaeology of Medieval Athens,” in *Essays on Medieval Life and Thought Presented in Honour of Austin Patterson Evans* (New York, 1955), 227–58.

<sup>75</sup> Travlos (Πολεοδομική ἐξέλιξις, 161) hypothesized that in middle Byzantine times the city was protected by the classical wall, which had been repaired (pl. VIII). The great length of this wall makes the hypothesis highly questionable.

<sup>76</sup> E. Makri, K. Tsakos, and A. Vavyloupolou-Charitonidou, “Τὸ Ριζόκαστρο. Σωζόμενα ὑπολείμματα. Νέες παρατηρήσεις, καὶ ἐπαναχρονολόγησι,” *Δελτ.Χριστ.Ἀρχ.Ἐτ.* 14 (1987–88): 329–63, with the earlier bibliography. See also M. Korres, “Χρονικά,” *ΑΔ* 35.2 (1990): 18–19. For the Byzantine settlement on the south slope of the Acropolis, see also *ΑΔ* 40.2 (1985): 10.

<sup>77</sup> C. Foss, “Late Antique and Byzantine Ankara,” *DOP* 31 (1983): 27–87.

<sup>78</sup> G. Kleiner, *Die Ruinen von Milet* (Berlin, 1968), 21, 140, and Müller-Wiener, “Mittelalterische Befestigungen,” 28–32, figs. 5–7.

<sup>79</sup> Müller-Wiener, “Mittelalterische Befestigungen,” 49–52, figs. 10–11.

<sup>80</sup> W. Müller-Wiener, “Die Stadtfestigungen von Izmir, Sigacik und Candepli,” *IstMitt* 12 (1962): 59–104.

<sup>81</sup> A. Pralong, “Les remparts de Philadelphie,” in *Philadelphie et autres études* (Paris, 1984), 101–26.

<sup>82</sup> *ΑΔ* 31.2 (1976): 187, pl. 133a.

<sup>83</sup> *ΑΔ* 32.2 (1977): 271–72.

<sup>84</sup> G. Marinou, “Ἡ ἀρχιτεκτονικὴ τῆς Ναυπάκτου κατὰ τὴν Ἑνετοκρατία καὶ τὴν Τουρκοκρατία,” *Ἡπειρωτικὰ Χρονικά* 27 (1985): 127–38, figs. 13–20; *ΑΔ* 33.2 (1978): 168–69.

<sup>85</sup> A. Vranousis, “Ἱστορικὰ καὶ τοπογραφικὰ τοῦ μεσαιωνικοῦ κάστρου τῶν Ἰωαννίνων,” in *Χαρτίσιον εἰς Ἀ. Κ. Ὀρλάνδον*, 4 vols. (Athens, 1965–68), 4:439–515, pls. CX–CXXIV, and *ΑΔ* 33.2 (1978): 188–89, figs. 1–2.

<sup>86</sup> *ΑΔ* 23.2 (1968): 370, pl. 323; *ΑΔ* 35.2 (1980): 439; *ΑΔ* 40.2 (1985): 281–82. G. Velenes and K. Triantaphyllides, “Τὰ βυζαντινὰ τεῖχη τῆς Δράμας. Ἐπιγραφικὲς μαρτυρίες,” *Βυζαντικά* 11 (1991): 97–116.

<sup>87</sup> E. Kollias, *The City of Rhodes and the Palace of the Grand Master* (Athens, 1988), 61, 63; idem, “Τοπογραφικὰ προβλήματα τῆς μεσαιωνικῆς ἀγορᾶς τῆς Ρόδου,” in *Ἱστορία καὶ προβλήματα συντήρησης τῆς μεσαιωνικῆς πόλης τῆς Ρόδου. Πρακτικά* (Athens, 1992), 82, 93, 96–97, 106.

<sup>88</sup> Bortoli and Kazanski, “Kherson,” 659.

between it and the walls of Theodosios was not densely inhabited.<sup>89</sup> Cross-walls (with perimeter walls and the acropolis) can thus be studied in Karyoupolis,<sup>90</sup> Rogoi,<sup>91</sup> Vouthroton,<sup>92</sup> Servia,<sup>93</sup> Serres,<sup>94</sup> Arta,<sup>95</sup> Apollonia,<sup>96</sup> Amorion,<sup>97</sup> Ephesos,<sup>98</sup> and the cities of Pontos.<sup>99</sup> In Preslav, the acropolis was located in the center of the city, not at its edge.

The *Strategikon* of Kekaumenos gives instructions of all kinds for the defending of *kastra*, the most important of which was that houses should never abut on the walls.<sup>100</sup> This rule does not, however, always seem to have been kept. Naturally enough, there were also cases in which the natural defensive strength of sharply sloping ground was exploited.<sup>101</sup> Instances such as Zichna<sup>102</sup> and Mouchli<sup>103</sup> are typical of this, as is the site of Tŭrnovo,<sup>104</sup> which was protected by natural streambeds. We can see from the book by Kekaumenos and from other manuals of strategy<sup>105</sup> that walls were not, in themselves, sufficient; preparations for sieges also involved the construction of special engines and the employment of craftsmen of many skills, which would certainly have involved a considerable outlay on the part of the state.<sup>106</sup>

Provincial Byzantine cities were usually small in area<sup>107</sup> and densely populated, with all that that implied for the hygiene and comfort of the inhabitants. The interior of the castle of Sardis is a case in point. Thessalonike retained its early Christian boundaries because both the harbor of Constantine and the acropolis, located at opposite corners

<sup>89</sup> Mango, *Byzantium*, 76.

<sup>90</sup> Etzeoglou, "Καρυόπολις," p. 53, drawing 5, p. 40.

<sup>91</sup> Soteriou, "Ρωγών," and *ΑΔ* 35.2 (1980): 324, drawing 7.

<sup>92</sup> L. Ugolini, *Il mito d'Enea: Gli scavi* (Rome, 1937), 165–70.

<sup>93</sup> Xyngopoulos, *Τὰ μνημεῖα τῶν Σερβίων*, 17, 19; *ΑΔ* 40.2 (1985): 251; *ΑΔ* 41.2 (1986): 167.

<sup>94</sup> A. Xyngopoulos, *Ἐρευναι εἰς τὰ βυζαντινὰ μνημεῖα τῶν Σερρῶν* (Thessalonike, 1965), 2–21; *ΑΔ* 33.2 (1978): 315–16.

<sup>95</sup> A. K. Orlandos, "Τὸ κάστρον τῆς Ἄρτης," *Ἀρχ.Βυζ.Μνημ.* Ἐλλ. 2 (1936): 151–60, and D. Zivas, "The Byzantine Fortress of Arta," *IBI Bulletin* 19 (1964): 33–43.

<sup>96</sup> H. and H. Buschhausen, *Die Marienkirche von Apollonia* (Vienna, 1976), 268, fig. 2.

<sup>97</sup> R. M. Harrison, "Amorium 1987," *AnatSt* 38 (1988): 175–84, figs. 2–3.

<sup>98</sup> Foss, *Ephesus*, 111.

<sup>99</sup> A. Bryer and D. Winfield, *The Byzantine Monuments and Topography of the Pontos*, 2 vols. (Washington, D.C., 1985), 69–88, 107, 126, 186–90, figs. 43, 44, p. 331, fig. 118.

<sup>100</sup> Kekaumenos, *Strategikon*, in *Sovety i rasskazy Kekavmena*, ed. G. Litavrin (Moscow, 1972), chap. 32 (hereafter Kekaumenos).

<sup>101</sup> *Ibid.*, chaps. 13, 30, 31, 74.

<sup>102</sup> N. Moutsopoulos, "Τὸ βυζαντινὸ κάστρο τῆς Ζίχνας," *Ἐπιστημονικὴ Ἐπετηρὶς τῆς Πολυτεχνικῆς Σχολῆς τοῦ Ἀριστοτελείου Πανεπιστημίου Θεσσαλονίκης* 10 (1986): 161–338.

<sup>103</sup> Moutsopoulos, "Βυζαντινὰ σπίτια."

<sup>104</sup> See K. Dochev, "Tŭrnovo, Sixth–Fourteenth Centuries," *EHB* 673. Cf. N. Moutsopoulos, "Pensées et observations à l'occasion des fouilles archéologiques récentes à la Grande Laure aux pieds de Tzarevez à Veliko Tirnovo: Tours rondes et passages souterraines aux fortifications médiévales," *BalkSt* 26 (1985): 3–9.

<sup>105</sup> For these manuals of strategy, see A. Dain, "Les stratégistes byzantins," *TM* 2 (1967): 317–92, and J. Teall, "Byzantine Urbanism in the Military Handbooks," in *The Medieval City*, ed. H. A. Miskimin, D. Herlihy, and A. L. Udovitch (New Haven, 1977), 201–5.

<sup>106</sup> Teall, "Urbanism," 204, and Kekaumenos, chap. 33.

<sup>107</sup> Mango, *Byzantium*, 62.

of the rectangular walled city, had to be kept in use. As a result, no suburbs were created outside the walls, while much of the interior of the city was left unused.<sup>108</sup> Fortress cities (*kastra*) had to possess a certain amount of empty land, on which villagers from the surrounding countryside could be accommodated when, in the event of enemy attack, they sought refuge in the castle.<sup>109</sup> There are references in other cases to empty spaces—where crops were cultivated—inside the castle, and at least a rudimentary *pomoerium* had to be left around the inside of the walls. We have absolutely no idea whether the buildings whose foundations have come to light during excavations had one, two, or even more stories.

It may be concluded from the above that the area of a walled city can under no circumstances be taken as a criterion of its population. The central desideratum of economic history—a knowledge of the demographic level—cannot be met. Unfortunately, as Cyril Mango puts it, there is no formula for converting the area measurements of a city into population figures.<sup>110</sup>

In very few cases has it been possible to plot and study satisfactorily the urban fabric of a Byzantine city. Our evidence is usually fragmentary and leads to roughly the same conclusions: streets were narrow, seldom straight, and of variable width; sometimes they were blind alleys. The impression is one of disorder<sup>111</sup> and of awkward access to the close-built houses, which were also irregular in shape and small in floor area. This is precisely the picture we would expect to emerge from dynamically developing towns and cities, with problems being resolved as they occurred and in accordance with the constraints imposed by earlier structures. In other cases, such as Sardis<sup>112</sup> and perhaps Corinth,<sup>113</sup> the medieval city broke down into small units arranged around a strong nucleus. There are very few cases in which one can discern the existence of a “main street,” rather more regular in its course, broader, and of definitive importance for the shape of the city, though we do have the examples of Thessalonike,<sup>114</sup> Serres,<sup>115</sup> and the lower city of Monemvasia, where linear development was dictated by the layout of

<sup>108</sup> Kantakouzenos, 3:659 (III.93): πρὸς τὰ τῆς πόλεως μάλιστα ἀοίκητα μέρη (“toward those parts of the city where there [are] no houses at all”). Excavations in the vicinity of the Palace of Galerius and the Hippodrome have demonstrated that in more recent times, at least, this area was uninhabited. Travelers of the 18th century report a forest on the site of the Hippodrome; see A. Vavylopoulou-Charitonidou, “Céramique d’offrande trouvée dans des tombes byzantines tardives de l’Hippodrome de Thessalonique,” in *Recherches sur la céramique byzantine*, ed. V. Déroche and J. M. Spieser (Paris, 1989), 209 n. 1.

<sup>109</sup> Teall, “Urbanism,” 205.

<sup>110</sup> Mango, *Byzantium*, 62.

<sup>111</sup> As at Corinth, Argos, and Pergamon; cf. C. Bouras, “Houses in Byzantium,” *Δελτ.Χριστ.Ἀρχ. Ἐτ. 11* (1982–83): 9, 14, 16, and D. Konstantios, “Οὐζντίνα Θεσπρωτίας. Ἡ ιστορική διαδρομή, ἡ πολεοδομική ἐξέλιξη καὶ τὰ μνημεῖα ἐνός ἀρχαίου καὶ μεσαιωνικοῦ οἰκισμοῦ,” *Δελτ.Χριστ.Ἀρχ. Ἐτ. 15* (1989–90): 94.

<sup>112</sup> Foss and Scott, “Sardis,” 617–18.

<sup>113</sup> Sanders, “Corinth,” 648–49.

<sup>114</sup> Tafrahi, *Thessalonique*, 142–44. The two almost parallel streets led to the four main gates of the city: the more northerly ran from the Letaia Gate to that of the Archangels, and the more southerly from the Vardar Gate to the Kassandreiotike Gate. See also below, note 120.

<sup>115</sup> Xyngopoulos, “Ἐρευναι, 2–21; N. Z. Nikolaou, *Σκαπανεῖς τῆς ἱστοριογραφίας καὶ προβλήματα τῆς ἱστορίας τῶν Σερρών* (Thessalonike, 1964), 32ff, pls. I and II.

the ground available. It was equally rare for streets to be given names or to have special uses, though this may have happened in Messene<sup>116</sup> and Berroia.<sup>117</sup> In the period after the iconoclastic controversy, it was more usual for the great avenues of ancient cities—such as the famous Arcadiane in Ephesos—to be buried beneath dense settlements of small houses.<sup>118</sup> In the new cities of later Byzantium (Mistra, Geraki, Mouchli, etc.), the steeply sloping ground meant that most of the streets were stepped and could not be used by wheeled traffic. The dynamic, rather than predetermined, growth of the city and the difficulties involved in transport in its interior are clearly of great significance for the economy, but the subject does not seem to have been studied to date.

In a limited number of middle Byzantine cities—Nicaea,<sup>119</sup> perhaps Thessalonike,<sup>120</sup> Rhodes (in accordance with recent research),<sup>121</sup> Sinope,<sup>122</sup> and Kherson<sup>123</sup>—we find the survival of an ancient regular town planning system, with a grid of streets running at right angles to each other. The sole instance of a new grid plan being employed during the period in question is known only from textual evidence: the account is in the problematic *Timarion*,<sup>124</sup> which describes the temporary huts or tents of the great fair outside the west walls of Thessalonike being arranged in a regular rectangular pattern.<sup>125</sup> Presumably the flat plain made it easier to apply a regular plan of “streets.” It seems very likely that the central avenues of these middle Byzantine cities were survivals from the early Christian era or even from antiquity, but this cannot be proved. In Athens, it would seem<sup>126</sup> that the alignment of the classical Panathenaic Way had survived in the Agora. In other cities, such as Pergamon, Lakedaimon, and Kadmeia at Thebes, we see the survival of streets leading to the castle gates.

The absence of planning and the dynamic manner of growth can be seen in all the new cities of the middle and late Byzantine periods. Mistra is a typical example: there the existing road winding up to the castle continued in use as the main street of the town.<sup>127</sup> We do not know whether there were any building regulations in Byzantium other than those of Julian of Askalon,<sup>128</sup> to be found in the *Hexabiblos* of Harmeno-

<sup>116</sup> There are references to a δεσποτική and a δημοτική οδός. See A. Guillou, *Les actes grecs de S. Maria di Messina* (Palermo, 1963), 150, 152, 180.

<sup>117</sup> There is a reference to a gate and street “of the escort” (ὄψικκιανή): Kantakouzenos, 3:123 (IV.18).

<sup>118</sup> Foss, *Ephesus*, 113.

<sup>119</sup> Schneider and Karnapp, *Die Stadtmauer von Iznik*, pl. II.

<sup>120</sup> On a surviving town plan of Thessalonike dating from before the fire of 1917 (I. Travlos, in *Ἱστορία τοῦ Ἑλληνικοῦ ἔθνους* [Athens, 1974], 5:471, fig. on p. 474), the rectangular arrangement of the *insulae*, a remnant of the ancient Hippodamian system, can still be distinguished in a significant part of the city. These were very probably also present during the middle and late Byzantine periods.

<sup>121</sup> Kollias, *Rhodes*, 68, 69.

<sup>122</sup> Bryer and Winfield, *Pontos*, 75, 76, 88, fig. 4.

<sup>123</sup> Bortoli and Kazanski, “Kherson,” 659.

<sup>124</sup> See Kazhdan in *ODB* 2085, dating the *Timarion* to the first half of the 12th century.

<sup>125</sup> Guillou, *La civilisation*, 299–300.

<sup>126</sup> Travlos, *Πολεοδομική εξέλιξις*, 156 and folding pl. VIII.

<sup>127</sup> A. K. Orlandos, “Τὰ παλάτια καὶ τὰ σπίτια τοῦ Μυστρᾶ,” *Ἀρχ.Βυζ.Μνημ.Ἑλλ.* 3 (1937): 9.

<sup>128</sup> G. Velenis, “Wohnviertel und Wohnhausbau in den byzantinischen Städten,” in *Wohnungsbau im Altertum* (Berlin, 1978), 227–36; D. Gines, “Τὸ Ἐπαρχικὸν Βιβλίον καὶ οἱ νόμοι Ἰουλιανοῦ τοῦ Ἀσκαλωνίτου,” *ΕΕΒΣ* 13 (1937): 183–91.

poulos,<sup>129</sup> nor do we have any idea of the extent to which even those provisions were enforced in the provinces during the period under consideration.<sup>130</sup> In a surviving formula of protocol for the foundation of a city,<sup>131</sup> the person responsible for “the settlement and formation of a *kastron*” (τοῦ οἰκῆσαι καὶ συστήσαι κάστρον) does not mention planning or building regulations; the reference is primarily to matters of land ownership.

The presence on the site of earlier building materials was of decisive importance for the character of these old cities. Byzantium was built on the ruins of the ancient world. Without regard for its historical or aesthetic value,<sup>132</sup> whatever remained of classical and early Christian buildings was reused in every conceivable way. These spolia might be put to a different use after being modified, they might be incorporated as parts of new buildings, or—more usually—they might be demolished so that their materials could be used in the building of new and much more modest structures. The picture revealed by excavations in Byzantine cities is almost completely uniform. The principal advantages of the spolia for the new structures were economy and facility; there are only very occasional cases in which any attempt seems to have been made to convey an impression of historical continuity or a new artistic form.<sup>133</sup> At the same time, however, the reuse of spolia created difficulties in the planning of new buildings and tended to cause some degree of inertia in development on the urban scale.

In very many cases, the ancient city walls were reused after minor or extensive supplementation: the cases of Thessalonike,<sup>134</sup> Smyrna,<sup>135</sup> Ephesos,<sup>136</sup> the late Roman walls of Athens,<sup>137</sup> Amphissa,<sup>138</sup> Arta,<sup>139</sup> Nauplia,<sup>140</sup> Uzdhina,<sup>141</sup> and Kherson<sup>142</sup> spring immediately to mind. Aside from the conversion of temples into churches, instances of changes of the use of ancient buildings include the converting into water tanks of the temple of Trajan at Pergamon,<sup>143</sup> of the great temple at Sardis,<sup>144</sup> and of the Agora-

<sup>129</sup> Konstantinos Harmenopoulos, *Πρόχειρον Νόμων, ἢ Ἐξάβιβλος*, ed. K. Pitsakis (Athens, 1971), 114ff (hereafter *Hexabiblos*).

<sup>130</sup> See A. Karpozilos, “Περὶ ἀποπάτων, βόθρων, ὑπονόμων,” in *Καθημερινὴ ζωὴ στὸ Βυζάντιο*, ed. Ch. Angelidi (Athens, 1989), 344.

<sup>131</sup> G. Ferrari delle Spade, “Formulari notarili inediti dell’età Bizantina,” *BISI* 33 (1913): 55.

<sup>132</sup> See, in this respect, Ch. Bouras, “Restoration Work on the Parthenon and Changing Attitudes towards the Conservation of Monuments,” in *The Parthenon and Its Impact in Modern Times*, ed. P. Tournikiotis (Athens, 1994), 314–18.

<sup>133</sup> As in the cases of the Gate “of the Persecutions” in Ephesos or of the Virgin Gorgoepekoos in Athens. See also C. Mango, “Ancient Spolia in the Great Palace of Constantinople,” *Byzantine East, Latin West: Art-Historical studies in honor of Kurt Weitzmann* (Princeton, N.J., 1993), 645, 649.

<sup>134</sup> See M. Vickers, “Hellenistic Thessaloniki,” *JHS* 92 (1972): 156–70.

<sup>135</sup> A. W. Lawrence, *Greek Architecture* (Harmondsworth, 1962), pl. 117A.

<sup>136</sup> Foss, *Ephesus*, 111.

<sup>137</sup> Kazanaki-Lappa, “Medieval Athens,” 640.

<sup>138</sup> F. W. Winter, *Greek Fortifications* (Toronto, 1971), 158, fig. 136.

<sup>139</sup> Orlandos, “Τὸ κάστρον τῆς Ἄρτης,” 153 n. 1.

<sup>140</sup> S. Karouzou, *Τὸ Νάυπλιον* (Athens, 1979), 24, figs. 9–12.

<sup>141</sup> Konstantios, “Οὐζντίνα Θεσπρωτίας,” 91.

<sup>142</sup> Bortoli and Kazanski, “Kherson,” 659.

<sup>143</sup> Rheidt, “Pergamon,” 625.

<sup>144</sup> Foss and Scott, “Sardis,” 618–19; various manufacturing workshops set themselves up in the ruins of a Roman bath: *ibid.*, 619.

cryptoporticus and the *vestibulum* of the Octagon in Thessalonike; the use of the mosaic floor of an early Christian building in Thebes;<sup>145</sup> the reopening for use of ancient rooms in Argos<sup>146</sup> and Athens;<sup>147</sup> and a host of other examples.<sup>148</sup> I have already discussed the reuse of ancient roads.

The outcome of the absence of planning, of shortages of space, and of the recycling of building materials was that the provincial cities of Byzantium tended to lack a monumental style. Here and there, the chance survival of ancient buildings to their full height or of statues created points of reference in the cities where memories of the classical past were kept alive. This subject is developed by R. Cormack,<sup>149</sup> who deals with the architectural heritage of two dissimilar cities, Thessalonike and Aphrodisias. The way in which the Byzantines viewed this heritage can be studied only in Constantinople, and then solely through the texts.<sup>150</sup> It is characteristic of the situation that Athens and Pergamon, two cities that had retained much of their ancient architectural heritage, impressed those returning to them after stays in the capital.<sup>151</sup>

Given that most transport in Byzantium took place by sea, harbors were important as places dedicated to the movement of goods and the process of production. Although we have references to various harbors that continued to operate throughout the Middle Ages,<sup>152</sup> we do not know of the construction of even one new harbor after the iconoclastic controversy, and no archaeological traces that might be studied from the point of view of port installations, facilities, and functions have come to light. Little significance was attached to works of infrastructure,<sup>153</sup> as can be seen in the ease with which one harbor might give way to another: the hinterland of Thessaly, for example, was served successively by the harbors of Thessalian Thebes, Demetrias, Almyros, and lastly Volos.

As for the position of the harbor vis-à-vis the city, we have information about Thessalonike,<sup>154</sup> the cities of Pontos,<sup>155</sup> Ephesos,<sup>156</sup> Smyrna,<sup>157</sup> Strobilos,<sup>158</sup> Monemvasia,<sup>159</sup>

<sup>145</sup> AA 36.2 (1981): 189–90.

<sup>146</sup> AA 37.2 (1981): 97.

<sup>147</sup> AA 24.2 (1969): 52; see also below, note 290.

<sup>148</sup> Bouras, "City and Village," 640.

<sup>149</sup> R. Cormack, "The Classical Tradition in the Byzantine Provincial City," in *Byzantium and the Classical Tradition*, ed. M. Mullett et al. (Birmingham, 1979), 104ff.

<sup>150</sup> C. Mango, "L'attitude byzantine à l'égard des antiquités gréco-romaines," in *Byzance et les images*, ed. A. Guillou and J. Durand (Paris, 1994), 97–129; idem, "Antique Statuary and the Byzantine Beholder," *DOP* 17 (1963): 55–75, and H. Saradi-Mendelovici, "Christian Attitudes toward Pagan Monuments in Late Antiquity and Their Legacy in Later Byzantine Centuries," *DOP* 44 (1990): 47–61.

<sup>151</sup> See the text of Michael Choniates on Athens (Lambros, *Μιχαὴλ Ἀκομινάτου*, I:105, 159, 160) and of Theodore Laskaris on Pergamon (S. Antoniadis, "Sur une lettre de Théodore II. Laskaris," *L'Hellénisme contemporaine* [Athens, 1954], 357, 358, 360).

<sup>152</sup> See H. Ahrweiler, "Les ports byzantins (7–9 siècles)," in *La navigazione mediterranea nell'alto medioevo*, 2 vols. (Spoleto, 1978), 1:15–31.

<sup>153</sup> By comparison with those of Roman or subsequent harbors.

<sup>154</sup> Tafrali, *Thessalonique*, 14–18.

<sup>155</sup> Bryer and Winfield, *Pontos*, 88, 92, 195.

<sup>156</sup> Foss, *Ephesus*, 185–87.

<sup>157</sup> Müller-Wiener, "Die Stadtfestigungen von Izmir," 59–104.

<sup>158</sup> Foss, "Strobilos," 148.

<sup>159</sup> Kalligas, *Byzantine Monemvasia*, 53.

Chrysoupolis-Kavala,<sup>160</sup> Attaleia,<sup>161</sup> Herakleia Pontike,<sup>162</sup> among others. Since Byzantine ships were not large, the harbors, too, tended to be small, and so it was easy to find locations along the coast where natural protection was available.<sup>163</sup> The facilities of a Byzantine harbor would include a customhouse,<sup>164</sup> a fountain for drinking water, and wooden jetties (σκάλαι), of which we know there were many along the Golden Horn,<sup>165</sup> at which ships might discharge their cargo. For reasons of security, the harbor and the acropolis ought ideally to have had a direct connection, as in the cases of Kherson<sup>166</sup> and Sinope,<sup>167</sup> but this was rarely possible. I have already discussed the case of Thessalonike.

The area in which commercial activities were located continued to be called the agora down to the end of the Byzantine Empire.<sup>168</sup> It is certain that the concept of the agora as the meeting place of the citizens, as it had been in the cities of antiquity, had long since died away, and the enclosed *forum* of the Roman and early Christian urban centers had also disappeared. Yet the area where trade was done must have continued to be a place for social intercourse—and a pleasant one, at that, to judge from a comment by Eustathios of Thessalonike,<sup>169</sup> who reprimands certain monks for spending more time in the marketplace than in church. Where the marketplace of the post-iconoclastic Byzantine city is concerned, the written texts help us understand that a distinction has to be made between the complexes of permanent shops that formed part of the urban fabric, the temporary stalls set up on open ground for commercial transactions, and fairs.

The permanent market of the Byzantine city seems to have been along the lines of that of Constantinople, that is, it was arranged along either side of a main street that was also called the *foros*.<sup>170</sup> Archaeological evidence to prove this is scanty in the extreme, as are references in the texts. In Thessalonike,<sup>171</sup> we are told that the market-

<sup>160</sup> AD 33.2 (1978): 322–23; AD 41.2 (1986): 175.

<sup>161</sup> Vryonis, *Decline*, 13, 14 and nn. 62–68.

<sup>162</sup> W. Hoepfner, *Herakleia Pontike-Erëgli: Eine Baugeschichtliche Untersuchung* (Vienna, 1966), 35, 40, 47.

<sup>163</sup> The relative ease with which safe anchorages could be found in uninhabited places, especially in the Aegean, fostered the growth of piracy. Michael Choniates gives an eloquent account of events on Aegina and Makronisos (Lambros, *Μυχρήλ Ἀκομινάτου*, 2:238, 239, 565, 566). It is also worth noting that even fortified harbors such as Strobilos and Naupaktos came into the hands of pirates for a while. For the size and capacity of the ships, see G. Makris, “Ships,” *EHB* 94–97.

<sup>164</sup> No archaeological traces of a customs building are known.

<sup>165</sup> W. Müller-Wiener, *Bildlexikon zur Topographie Istanbul* (Tübingen, 1977), 58–63.

<sup>166</sup> Bortoli and Kazanski, “Kherson,” 659.

<sup>167</sup> Bryer and Winfield, *Pontos*, 88, fig. 4.

<sup>168</sup> See M. Johnson, “Agora,” *ODB* 38.

<sup>169</sup> *Opuscula* 223, 38–40, according to A. Laiou, “Market,” *ODB* 1301.

<sup>170</sup> In other words, it kept a name derived from the Roman “forum.” For the replacement of the agora by streets with arcades, see C. Mango, *Byzantine Architecture* (New York, 1976), 57; for temporary and permanent markets, see A. E. Laiou, “Exchange and Trade, Seventh–Twelfth Centuries,” *EHB* 709–10, 730–32, 754–56, and K.-P. Matschke, “Commerce, Trade, Markets, and Money, Thirteenth–Fifteenth Centuries,” *EHB* 779–82.

<sup>171</sup> Tafrahi, *Thessalonique*, 126 nn. 3–4, and 147 n. 2.

place was located near the Kassandreiotike Gate, on the southeastern side of the city, but it seems very likely that there would also have been a commercial area on the southwestern side, by the harbor. In Rhodes, the central thoroughfare (*mese*) of the Byzantine city was the ancient *decumanus* street, and one of the city gates, with an open space for commercial purposes,<sup>172</sup> was located at its intersection with the *cardo*. In Corinth, a row of shops with a light arcade on its facade has been identified,<sup>173</sup> but there is some question as to the relation it bore to the center of the Byzantine city.<sup>174</sup> Views have been put forward<sup>175</sup> about the location of the permanent marketplace of Athens, while in Pergamon it seems clear that the main street of the section of the city that has been excavated came to be lined with small shops.<sup>176</sup> The “Byzantine shops” of Sardis,<sup>177</sup> on the other hand, survived no later than the seventh century. The most complete picture of a line of shops is that provided by Preslav,<sup>178</sup> whose commercial center has been systematically excavated. Unfortunately, we have no information at all about the commercial or other uses of the main streets of the other cities.<sup>179</sup>

Temporary markets in open spaces have, of course, left no traces, and we can only hypothesize about where they must have been located and what they must have looked like, as in the cases of the cities of Asia Minor<sup>180</sup> and the Peloponnese. We have more specific information about open spaces in Lakedaimon,<sup>181</sup> Ephesos,<sup>182</sup> and Rhodes.<sup>183</sup> It is questionable whether the superb plaza in front of the palaces at Mistra<sup>184</sup> was intended for commercial purposes, and the model for it ought probably to be sought in the corresponding *piazzas* of medieval Italian cities. It is interesting to note, however, that immediately after the Ottoman conquest these few free spaces in cities such as Mistra, or others that took shape under foreign suzerainty, were covered over with houses.<sup>185</sup>

<sup>172</sup> Recent discoveries by the director of antiquities, E. Kollias, and his associates.

<sup>173</sup> R. Scranton, *Mediaeval Architecture in the Central Area of Corinth*, Corinth 16 (Princeton, N.J., 1957), 58–60, 77–78, 124–25, drawing VI.

<sup>174</sup> Sanders, “Corinth,” 650, 652. The lower city of Corinth, as distinct from the castle of the Acrocorinth, is described by Niketas Choniates as “the commercial district” (ἐμπόριον); *Nicetae Choniatae Historia*, ed. I. Bekker (Bonn, 1835), 100 (75, 56–57). The same distinction between the city and the fortified castle is to be seen at a later date in the *Chronicle of the Morea* (ed. P. Kalonaros [Athens, 1967], p. 196, lines 4665, 4666) in the case of Veligoste.

<sup>175</sup> H. Thompson and R. Wycherley, *The Agora of Athens* (Princeton, N.J., 1972), 216 n. 28.

<sup>176</sup> Rheidt, “Pergamon,” 626–27.

<sup>177</sup> J. S. Crawford, *The Byzantine Shops at Sardis* (Cambridge, Mass., 1990).

<sup>178</sup> Jordanov, “Preslav,” 668. On the southwestern side is a large square for commercial purposes, along the wall, and a line of eighteen shops, all of the same size, close to the gate leading to the road to Constantinople.

<sup>179</sup> The *foros* gate has been found at Serres, but there are no traces of shops. See AA 33.2 (1978): 315–16.

<sup>180</sup> Vryonis, *Decline*, 10–20.

<sup>181</sup> Bon, *Péloponnèse*, 132–33.

<sup>182</sup> Foss, *Ephesus*, 113.

<sup>183</sup> Kollias, “Τοπογραφικά προβλήματα,” 81–108.

<sup>184</sup> Orlandos, “Μυστράς,” 10–11.

<sup>185</sup> As in the cases of Chios (P. Argenti, *Hieronimo Giustiniani's History of Chios* [Cambridge, 1943], 65ff), Rhodes, and Mistra (Orlandos, “Μυστράς,” 10 n. 2).

It seems to have been easier to find free space for temporary commercial activities outside the walls. Kekaumenos describes the bazaar held by pirates outside the gates of Demetrias,<sup>186</sup> and there is good reason to believe that there were commercial uses in spaces outside the walls of Adrianople, Rhodes,<sup>187</sup> and other cities. Psellos provides us with the interesting piece of information that in 1042 a whole town consisting of huts for commercial purposes sprang up for a short period in the sparsely inhabited part of Constantinople between the walls of Constantine and Theodosios.<sup>188</sup>

In urban terms, the fairs that established themselves in certain towns across the empire, which were associated with the feast day of a saint,<sup>189</sup> and which were open to merchants from far away, even beyond the frontiers of the state, were of a similar form. Here, too, no material traces have survived; all our information is from the written sources. I have already mentioned Timarion's description of the fair of St. Demetrios in Thessalonike. In Asia Minor there were important fairs at Ephesos,<sup>190</sup> Chonai,<sup>191</sup> and Trebizond.<sup>192</sup> We also know of fairs in the Peloponnese,<sup>193</sup> though the Life of Hosios Nikon tells us that the fair of Lakedaimon took place within the city walls.<sup>194</sup>

The "court" (αὐλή) was most probably an unroofed space, secured by gates, around which were located shops, workshops, and houses. It formed a distinct unit of property. We know of such courts in Thessalonike,<sup>195</sup> Peritheorion,<sup>196</sup> and elsewhere. With reservations, one might identify specific architectural remains in Athens<sup>197</sup> and Thebes<sup>198</sup> as courts surrounded by shops, but it would be hard, especially in view of their size, to connect them with the roofed markets typical of the commercial centers of Arab cities during the same period.

Another point of interest is the presence, known to us from written sources, of street traders in Byzantine cities.<sup>199</sup> The depiction of the cult of the Virgin of the Blachernai in the *katholikon* of the Blachernae monastery at Arta is of interest from a number of

<sup>186</sup> Kekaumenos, chap. 33.

<sup>187</sup> Kollias, "Τοπογραφικά προβλήματα."

<sup>188</sup> Michel Psellos, *Chronographie*, ed. E. Renauld, 2 vols. (Paris, 1967), 1:127.

<sup>189</sup> Sp. Vryonis, "The Panegyris of the Byzantine Saint," in *The Byzantine Saint* (London, 1981), 196–227; A. E. Laiou, "Händler und Kaufleute auf dem Jahrmarkt," in *Fest und Alltag in Byzanz*, ed. G. Prinzing and D. Simon (Munich, 1990), 53–70.

<sup>190</sup> Vryonis, *Decline*, 10, and Foss, *Ephesus*, 110–11, 126.

<sup>191</sup> In honor of the archangel Michael: see Vryonis, *Decline*, 20 n. 112.

<sup>192</sup> *Ibid.*, 40 n. 197.

<sup>193</sup> A. I. Lambropoulou, "Οἱ ἐμποροπανηγύρεις στὴν Πελοπόννησο κατὰ τὴν Μεσαιωνικὴ ἐποχὴ," in *Ἡ καθημερινὴ ζωὴ στὸ Βυζάντιο*, ed. Angelidi (as above, note 130), 291–310.

<sup>194</sup> *Ibid.*, 294–95.

<sup>195</sup> M. L. Rautmann, "Observations on the Byzantine Palaces of Thessaloniki," *Byzantion* 60 (1990): 301, 302, 305, describing the building of 1415.

<sup>196</sup> P. Lemerle, "Le typikon de Grégoire Pakourianos (Décembre 1083)," in *Cinq études sur le XIe siècle byzantin* (Paris, 1977), 135.

<sup>197</sup> T. L. Shear, "The Campaign of 1933," *Hesperia* 4 (1935): 311ff.

<sup>198</sup> *AA* 23.2 (1968): 214–16, drawing 8; the courtyard measured 9.5 × 8 m.

<sup>199</sup> Examples were assembled by Ph. Koukoules, *Βυζαντινῶν Βίος καὶ Πολιτισμός*, 6 vols. in 7 pts. (Athens, 1948–57), 2.1:240–41.

points of view, but it also contains five market scenes<sup>200</sup> showing street traders. The sale of slaves took place under specific conditions<sup>201</sup> in the provincial cities of Byzantium; in Constantinople, the slave market was located in a specific place, about which we have a certain amount of information.<sup>202</sup>

In the cities of Byzantium, the workshops of craftsmen<sup>203</sup> differed little from ordinary shops; the two types of establishment often coexisted, and uses could switch easily, given that the systems of production were simple. It is generally accepted that technological progress in Byzantium was slow;<sup>204</sup> it was not until a very late date, shortly before the fall of Constantinople, that the potential of technology was appreciated.<sup>205</sup> Sources of energy that could be used to power machinery were usually located outside cities,<sup>206</sup> and the distribution of labor was little better than rudimentary. As a result, the level of manufacturing production in Byzantium was low, only a few cities manufactured goods that could be exported, and European goods rapidly dominated the market in the late Byzantine period.

The archaeological traces of manufacturing activities in the provincial cities of Byzantium are, unfortunately, few and hard to discern. Although it is difficult to confirm this from the finds, it would appear that the practice of having workshops on the ground floor and residential quarters on the upper story, or of workshops between houses, known to us from medieval Europe, was also common in Byzantium.<sup>207</sup>

Garments for everyday wear were certainly woven or knitted at home. We have a good deal of information about the production of expensive silk cloth for export;<sup>208</sup> this was made in Nicaea,<sup>209</sup> Corinth, Andros,<sup>210</sup> and, above all, Thebes. Indeed, in the mid-twelfth century it would appear that the production of Thebes outstripped that of Constantinople itself,<sup>211</sup> and it is the only city where archaeological evidence has

<sup>200</sup> M. Acheimastou-Potamianou, "Byzantine Wall Paintings of Vlacherna Monastery," in *Actes du XV<sup>e</sup> Congrès International des études byzantines* (Athens, 1981), 2.1:12–14.

<sup>201</sup> Kekaumenos, 125.

<sup>202</sup> A. Xyngopoulos, "Περὶ μίαν μικρογραφίαν τοῦ κώδικος Laurentianus VI, 23," in *Χαριστήριον εἰς Ἀ. Κ. Ὀρλάνδον* (as above, note 85), 1:233–39, pl. 1.

<sup>203</sup> For the term "workshop" (ἐργαστήριον) and distinctions among them in the *Book of the Eparch*, see A. Kazhdan, "Ergasterion," *ODB*, 726.

<sup>204</sup> Kazhdan and Epstein, *Change*, 50.

<sup>205</sup> Sp. Lambros, "Ἐπίσημα τοῦ καρδινάλιου Βησσαρίωνος," *Νέος Ἑλλ.* 3 (1906): 25, 26; A. G. Keller, "A Byzantine Admirer of Western Progress, Cardinal Bessarion," *Cambridge Historical Journal* 2 (1953–55): 31–37.

<sup>206</sup> For water mills and windmills, see below.

<sup>207</sup> Scranton, *Mediaeval Architecture*, 74–76; C. Bouras, "Κατοικίες καὶ οἰκισμοὶ στὴν Βυζαντινὴ Ἑλλάδα," in *Οἰκισμοὶ στὴν Ἑλλάδα*, ed. O. Doumanis (Athens, 1974), 46 n. 157; see also Dochev, "Tŭrnovo," 677. In the residential area, metalworking shops and potteries of the 12th century have come to light.

<sup>208</sup> See D. Jacoby, "Silk in Western Byzantium before the Fourth Crusade," *BZ* 84/85 (1991–92): 452–500. Cf. G. Dagron, "The Urban Economy, Seventh–Twelfth Centuries," *EHB* 438–44.

<sup>209</sup> Vryonis, *Decline*, 12 n. 49.

<sup>210</sup> A. K. Orlandos, "Βυζαντινὰ μνημεῖα τῆς Ἀνδρου," *Αρχ.Βυζ.Μνημ.Ἑλλ.* 8 (1955–56): 6 nn. 2–4.

<sup>211</sup> Jacoby, "Silk," 497.

survived to confirm the written sources.<sup>212</sup> Information about the production, three centuries earlier, of luxury cloth in Patras<sup>213</sup> has not been verified by archaeology. Indeed, the whole of the Danielis story, from which the information comes, has been called into question.<sup>214</sup>

The process of dyeing expensive silk cloth was closely connected with the weaving of it, and here again the Byzantine ruins of Thebes are most instructive. Dyeing required abundant supplies of water<sup>215</sup> and also the procurement of purple dye (*porphyra*), which fishermen obtained from the sea off Ermione,<sup>216</sup> the islet of Gyaros, and the coast of Attica.<sup>217</sup>

As we have already seen, pottery is the manufacturing activity of most relevance for archaeology. Expensive or everyday items of pottery were used everywhere, being bought, sold, or given as gifts. A close study of them reveals that pottery was made in a large number of cities. The pottery workshops whose ruins have been identified amount to only a small proportion of those that once existed and that are defined as “local” solely on the basis of the shapes and techniques of their products. Active pottery workshops have thus been identified in Thessalonike,<sup>218</sup> Larissa,<sup>219</sup> Tŭrnovo,<sup>220</sup> Serres, settlements in western Thrace,<sup>221</sup> Athens,<sup>222</sup> Pergamon,<sup>223</sup> Thebes,<sup>224</sup> and Corinth.<sup>225</sup> Pottery workshops, usually with kilns, have been identified during excavations in

<sup>212</sup> Louvi-Kizi, “Thebes,” 636–38. C. Koilakou, “Βυζαντινὰ ἐργαστήρια (βαφῆς;) στὴν Θήβα,” *Τεχνολογία* 3 (1989): 23–24.

<sup>213</sup> In *Theophanes Continuatus*, ed. I. Bekker (Bonn, 1838), 226–28, 316–21; and Skylitzes: *Ioannes Scylitzae, Synopsis historiarum*, ed. I. Thurn (Berlin, 1973), 121–23, 160–61.

<sup>214</sup> I. Anagnostakis, “Τὸ ἐπεισόδιο τῆς Δανιηλίδας. Πληροφορίες καθημερινοῦ βίου ἢ μυθοπλαστικὰ στοιχεῖα,” in *Ἡ καθημερινὴ ζωὴ στὸ Βυζάντιο*, ed. Angelidi (as above, note 130), 375–90.

<sup>215</sup> See *AD* 41.2 (1986): 27, and the conclusions reached by Louvi-Kizi, “Thebes,” 634, as to the water supply for the workshops of Thebes from the aqueduct of Ioannes Kaloktenes.

<sup>216</sup> Lambros, *Μιχαὴλ Ἀκομινάτου*, 2:275 and 635.

<sup>217</sup> According to the *praktikon*, the area between the Acropolis and Philopappos hill was occupied by the neighborhood of the κογχυλάρτοι, who are believed to have been dyers or fishermen of porphyra. See Grandstrem, Medvedev, and Papachryssanthou, “Fragment d’un *praktikon*,” 25, 26, 35. See also Kazanaki-Lappa, “Medieval Athens,” 644–45.

<sup>218</sup> D. Papanikola-Bakirtzi, “Ἐργαστήριο ἐφυσωμένης κεραμεικῆς στὴ Θεσσαλονίκη,” in *Ἀφιέρωμα στὴ μνήμη Στ. Πελεκανίδη* (Thessalonike, 1983), 377–88; C. Bakirtzis and D. Papanikola-Bakirtzis, “De la céramique byzantine en glaçure à Thessalonique,” *BBulg* 7 (1981): 421–36; cf. V. François and J.-M. Spieser, “Pottery and Glass,” *EHB* 604.

<sup>219</sup> G. Gourgiotis, “Τὰ Θεσσαλικά μεσοβυζαντινὰ κεραμουργεῖα,” *Ἀρχαιολογία* 54 (1995): 47–50.

<sup>220</sup> *Ibid.*

<sup>221</sup> Bakirtzis, “Western Thrace,” 48. There was a glazed pottery workshop in the settlement of Gratianon.

<sup>222</sup> Kazanaki-Lappa, “Medieval Athens,” 644.

<sup>223</sup> A. H. S. Megaw, “Zeuxippus Ware,” *BSA* 63 (1968): 82.

<sup>224</sup> P. Armstrong, “Byzantine Thebes: Excavation on the Kadmeia, 1980,” *BSA* 88 (1993): 295–335. It seems likely that these vessels were made in a local workshop, though others imported from Constantinople have been found.

<sup>225</sup> Sanders, “Corinth,” 651–52. Evidence has been discovered of striking development in the manufacturing of pottery during the last decade of the 11th century. See also Scranton, *Mediaeval Architecture*, 47–49, 56, 59, 61, 67–68.

Arta,<sup>226</sup> Thessalonike,<sup>227</sup> Didymoteichon,<sup>228</sup> Corinth,<sup>229</sup> Sardis,<sup>230</sup> and Pydna.<sup>231</sup> Unfortunately, almost none of these instances of specific pottery workshops have been studied in a systematic and detailed manner capable of producing conclusions about the number of staff employed, the volume of production, the position of the workshops in the city, the date at which they operated, and other facts.

The question of the capacity of the large vessels that were in everyday use is beginning to receive attention in connection with the marketing of products<sup>232</sup> and is obviously of great interest for economic history. However, its only place in this examination of the Byzantine city is in relation to the storage spaces in houses, discussed below.

Quite a number of glass objects, mostly vessels, have been found in middle Byzantine cities,<sup>233</sup> but very few workshops with the special kilns required for glass have been discovered,<sup>234</sup> perhaps because Constantinople manufactured enough of these items to meet the needs of the empire. As long as fifty years ago,<sup>235</sup> two glass workshops were excavated and studied in Corinth; they operated in the eleventh and twelfth centuries, but more recent research has shown that many of the glass objects found in Corinth were imported.<sup>236</sup> A kiln for glass has come to light at Tŭrnovo,<sup>237</sup> near the gate on the road to Constantinople, and at Sardis<sup>238</sup> there was a small workshop making glassware during the late Byzantine period. The question of the manufacturing of large quantities of glass for major architectural projects in the provinces has not yet been studied.<sup>239</sup>

It is generally accepted that proper metalworking—the production and casting of

<sup>226</sup> ΑΔ 41.2 (1986): 107. Two large pottery kilns outside the walls (?).

<sup>227</sup> ΑΔ 33.2 (1978): 239.

<sup>228</sup> ΑΔ 32.2 (1977): 284–85.

<sup>229</sup> Sanders, "Corinth," 652; the pottery kiln beneath the church of St. John.

<sup>230</sup> Foss and Scott, "Sardis," 620. Pottery reappears during the 12th century, with the production of imitation deluxe ware. J. A. Scott and D. C. Kamilli, "Late Byzantine Glazed Pottery from Sardis," in *Actes du XV<sup>e</sup> Congrès International des études byzantines* (as above, note 200), 2:649–96.

<sup>231</sup> I. Marki, "Ανασκαφή έργαστηρίου κεραμεικής και χύτευσης σιδήρου στην αρχαία Πύδνα," in *Ἀντίφωνον, Ἀφιέρωμα στὸν καθηγητὴ Ν.Β. Δρανδάκη*, ed. B. Katsaros (Thessalonike, 1994), 123.

<sup>232</sup> Of amphoras in particular. See P. Arthur, "Aspects of Byzantine Economy: An Evaluation of Amphora Evidence from Italy," in *Recherches sur la céramique byzantine*, ed. Déroche and Spieser (as above, note 108), 79–93; Ch. Bakirtzis, "Byzantine Amphorae," *ibid.*, 73–77; Ch. Bakirtzis, *Βυζαντινὰ τσουκαλολάγνηνα* (Athens, 1989), 72–74, 115–20, 126–27.

<sup>233</sup> As in Pergamon (Rheidt, "Pergamon," 627) and Tŭrnovo (Dochev, "Tŭrnovo," 677).

<sup>234</sup> Kazhdan and Epstein, *Change*, 42; G. Davidson, "The Importance of Greece in Byzantine Glass Manufacture," in *Actes du XV<sup>e</sup> Congrès International des études byzantines* (as above, note 200), 2.2:915–18.

<sup>235</sup> G. R. Davidson, "A Medieval Glass Factory in Corinth," *AJA* 44 (1940): 297–324, and F. Matson, "Technological Study of Glass from the Corinth Factory," *AJA* 44 (1940): 325–27.

<sup>236</sup> Sanders, "Corinth," 652–53, and ΑΔ 32.2 (1977): 53, 54.

<sup>237</sup> Dochev, "Tŭrnovo," 677.

<sup>238</sup> Foss and Scott, "Sardis," 621.

<sup>239</sup> During the 1960s, remnants of a small kiln with an accumulation of glass paste were found close to the monastery of Hosios Loukas. In the 10th and 11th centuries, scores of glass disks were placed at the windows of the churches in the monastery, together with glass paste tesserae on the large surfaces of the domes and walls. The find has never been published.

large quantities of rough metal—was confined exclusively to Constantinople.<sup>240</sup> However, smaller workshops where metal was processed and manufactured (that is, the establishments of blacksmiths and coppersmiths) have been found in excavations of a number of sites: Corinth,<sup>241</sup> Pergamon,<sup>242</sup> Kherson,<sup>243</sup> and Thessalonike, where the sources refer to a whole “Arcade of the Coppersmiths.”<sup>244</sup> As examples of cities where metal-casting workshops have been discovered, one could cite Pydna<sup>245</sup>—Byzantine Kitros—and Tŭrnovo,<sup>246</sup> where, indeed, iron, copper, and lead ores seem to have been converted.

Archaeological excavations have produced even less information about another branch of metalworking in which Constantinople seems to have had a near-monopoly: the working of gold. Some traces of goldsmiths’ shops have come to light in Corinth,<sup>247</sup> and molds for gold jewelry have been found in Tŭrnovo.<sup>248</sup> Here we need to note that the provisions of Julian of Askalon banned the setting up of glass and metal workshops within the urban fabric.<sup>249</sup> This special problem has never been studied, but the general picture to be derived from the archaeological finds is that the provisions in question were not applied in the provincial cities during the period under examination.

Excavations have revealed various other buildings in which productive activities were carried out, but there are always doubts as to whether these were self-contained workshops or the ground floors of houses fitted with installations of some kind. Nor is it often clear what kind of goods were produced.<sup>250</sup> In Athens there are complexes of buildings on the sites of the temple of Olympian Zeus<sup>251</sup> and the Dipylon Gate,<sup>252</sup> outside the city walls, which had abundant supplies of water and are believed to have been soap factories<sup>253</sup> or tanneries. A system for distillation has been found in a workshop

<sup>240</sup> Kazhdan and Epstein, *Change*, 43; M. Mundell-Mango and L. Bouras, “Metalwork,” *ODB* 1351. Cf. M. K. Papatthanassiou, “Metallurgy and Metalworking Techniques,” *EHB*.

<sup>241</sup> Sanders, “Corinth,” 653; *AD* 32.2 (1977): 53–54.

<sup>242</sup> Rheidt, “Pergamon,” 627.

<sup>243</sup> Bortoli and Kazanski, “Kherson,” 661, 663; small-scale utilitarian objects and molds for buckles, of an earlier period.

<sup>244</sup> Tafrafi, *Thessalonique*, 126 n. 2. “Χαλκευτική Στοά,” not to be confused with the name of the church of the Virgin of the Coppersmiths (Παναγία τῶν Χαλκέων), which is a much later name. See also S. Kissas, “Η μεσαιωνική Θεσσαλονίκη ὡς κέντρο μεταλλοτεχνίας,” in *Ε’ Συμπόσιο ΧΑΕ: Πρόγραμμα καὶ περιλήψεις ἀνακοινώσεων* (Athens, 1985), 32–33.

<sup>245</sup> Marki, “Ανασκαφὴ ἐργαστηρίου,” 126–27. In notes 19 and 20, see the bibliography for other metal crucibles, of dubious chronology.

<sup>246</sup> Dochev, “Tŭrnovo,” 675–76.

<sup>247</sup> *AD* 32.2 (1977): 53–54.

<sup>248</sup> Dochev, “Tŭrnovo,” 676.

<sup>249</sup> *Hexabiblos*, 117–18. They could be located either outside the city or “in deserted and suitable places in the city” (εἰς τοὺς ἀποκησμένους καὶ ἰδιάζοντας τῶν πόλεων τόπους).

<sup>250</sup> As in the case of the σύγκολλα χανοῦτια, which we are told were made in Messina. See Guilou, *S. Maria di Messina*, 111.

<sup>251</sup> I. Threpsiadis and I. Travlos, “Ανασκαφικὰ ἔρευνα παρὰ τὸ Ὀλυμπιεῖον,” *Πρακτικὰ τῆς ἐν Ἀθήναις Ἀρχαιολογικῆς Ἐταιρείας* (1949): 25–43; *AD* 17.2 (1961): 9–14.

<sup>252</sup> W. Hoepfner, *Das Pompeion und seine Nachfolgerbauten* (Berlin, 1976), 192–95.

<sup>253</sup> Kazanaki-Lappa, “Medieval Athens,” 644.

in Sardis,<sup>254</sup> and Kherson has yielded special tanks for the salting of fish,<sup>255</sup> which the city exported. Facilities for the processing of agricultural produce were much more common: these included olive presses<sup>256</sup> and wineries, to which there are sometimes references in reports of excavations. Mills, which as already noted are connected with the technology of the period and with the utilization of natural energy sources, belong to the same category of installation.

“Animal-powered mill workshops”<sup>257</sup> were thus the most common in the cities themselves. Water mills, invented in antiquity, were usually confined to rural areas, where there were abundant streams, and the documents of Athonite monasteries refer to scores of them as assets of those foundations. The very well known water mill in the Agora of Athens<sup>258</sup> was also outside the city walls when it began to operate. Windmills, known in Byzantium at least as far back as the twelfth century,<sup>259</sup> might be located in cities—as in the case of Rhodes, where they stood on the quay at the harbor<sup>260</sup>—but our information about them is limited. There is no mention in Byzantine times of the use of wind- or waterpower for purposes other than grinding grain or pressing olives.<sup>261</sup>

Despite the nuisance created by tanneries, they were not covered by the prohibitions of Julian and the *Hexabiblos*; however, it seems likely that the tanneries of Athens<sup>262</sup> and Thebes<sup>263</sup> were located outside the cities. In Constantinople,<sup>264</sup> too, they were outside the walls, but in Thessalonike (though admittedly at a later date) they were in the city.<sup>265</sup> Also excluded from the city were various manufacturing activities connected with building materials<sup>266</sup> and the slaughterhouses.<sup>267</sup> Shipyards, which were clearly of

<sup>254</sup> Foss and Scott, “Sardis.”

<sup>255</sup> Bortoli and Kazanski, “Kherson,” 660.

<sup>256</sup> As in the case of Lakedaimon: ΑΔ 34.2 (1979): 157–59, drawing 1.

<sup>257</sup> P. Gautier, “Le *typikon* du sébaste Grégoire Pakourianos,” *REB* 42 (1984): 43.

<sup>258</sup> A. W. Parsons, “A Roman Watermill in the Athenian Agora,” *Hesperia* 5 (1936): 70–90; A. Frantz, *Late Antiquity, The Athenian Agora* 24 (Princeton, N.J., 1988), 80–83 n. 163. The monument dates from the 5th century.

<sup>259</sup> T. G. Koukoulis, “A Late Byzantine Windmill at Kythera,” in *Φιλολόκων: Lakonian Studies in Honour of Hector Catling*, ed. J. M. Sanders (London, 1992), 155–63; G. Dimitrokaldis, “Οἱ ἀνεμόμυλοι τῶν Βυζαντινῶν,” *Παρνασσός* 20 (1978): 141–44.

<sup>260</sup> Of the 14th century.

<sup>261</sup> See C. M. Cipolla, *Before the Industrial Revolution: European Society and Economy, 1000–1700*, 3d ed. (New York, 1994), 140–44. In France, water mills had been used for other productive purposes even in the early 11th century.

<sup>262</sup> Threpsiadis and Travlos, Ἀνασκαφικὰ ἔρευνα. Kazanaki-Lappa, “Medieval Athens,” 644.

<sup>263</sup> Louvi-Kizi, “Thebes,” 638.

<sup>264</sup> At Vlanga, a small harbor outside the sea walls. See D. Jacoby, “Les quartiers juifs de Constantinople,” *Byzantion* 37 (1967): 167–227; Maximos Planoudes protests that an abandoned monastery has been taken over by Jewish tanners. See S. Bowman and A. Cutler, “Anti-Semitism,” *ODB* 123.

<sup>265</sup> Tafrafi, *Thessalonique*, 16.

<sup>266</sup> As in the valley of the Keteios near Pergamon (Rheidt, “Pergamon,” 627), at Preslav (Jordanov, “Preslav,” 668), and at Turnovo (Dochev, “Turnovo,” 675). See also K. Theocharidou, “Συμβολή στην μελέτη τῆς παραγωγῆς κεραμικῶν προϊόντων στὰ βυζαντινὰ καὶ μεταβυζαντινὰ χρόνια,” *Δελτ.Χριστ.Ἀρχ. Έτ.* (1985–86): 97–112.

<sup>267</sup> The will of the monk Nikon the “Metanoieite”: see S. Lambros, “Ὁ βίος Νίκωνος τοῦ Μετανοεῖτε,” *Νέος Έλλ.* 3 (1906): 224.

great importance for the Byzantine economy and were located in the cities or close to them,<sup>268</sup> have left no material traces.

Cultivated land inside cities is of interest to us here not as a component in production,<sup>269</sup> but as proof of the decline in the value of land when it was used less intensively for other purposes. With the exception of a city in Armenia mentioned by Kekaumenos,<sup>270</sup> the presence of fields inside the walls was usually taken by the Byzantines as evidence that the city was in advanced decline. The best-known example is that of Athens,<sup>271</sup> where, however, the walled area should be regarded as that enclosed by the ancient walls of Themistocles rather than the circuit of Byzantine times.<sup>272</sup> It was this picture of decline that foreign visitors wished to emphasize in their descriptions of Constantinople<sup>273</sup> and Corinth<sup>274</sup> during the late Byzantine period. Thessalonike, as we have seen, had extensive open spaces because of the distance between its harbor and the acropolis;<sup>275</sup> in other words, once more for defensive purposes. As for the natural environment of the middle Byzantine urban landscape,<sup>276</sup> it would be an error to attempt any generalization whatsoever. Of the monasteries within the cities, very few, such as the Stoudios monastery in Constantinople,<sup>277</sup> could be regarded as productive in the sense that they turned out more goods than were essential for their own needs.

To return to the question of the ancient buildings within the middle Byzantine cities that had survived from earlier periods, the recycling of marble, disastrous as it may have been for art, may be regarded as a process of production. The lime-kilns closest to ancient temples, such as those of Sardis<sup>278</sup> or in the temple of Olympian Zeus in Athens,<sup>279</sup> did not suspend operations until the nineteenth century, and it was common

<sup>268</sup> H. Antoniadis-Bibikou, *Etudes d'histoire maritime de Byzance* (Paris, 1966), passim; Vryonis, *Decline*, 16 n. 90; Bryer and Winfield, *Pontos*, 195; T. Gregory, "Rhodes," *ODB*, 1792; Kalligas, *Byzantine Monemvasia*, 53–54. The shipyards of Monemvasia were at the harbor of Ierax, 14 km to the north (*ibid.*, 54 nn. 58, 59).

<sup>269</sup> J. Koder, "Fresh Vegetables for the Capital," in *Constantinople and Its Hinterland*, ed. C. Mango and G. Dagron (Aldershot, 1995), 51–53.

<sup>270</sup> Kekaumenos, 168.

<sup>271</sup> Known to us from the passage in Michael Choniates; see Lambros, *Μιχαήλ Ἀκομινάτου*, 1:159–60; Kazanaki-Lappa, "Medieval Athens," 645; Kazhdan and Epstein, *Change*, 48.

<sup>272</sup> This can be concluded from the entries in the *praktikon*; see Grandstrem, Medvedev, and Pachryssanthou, "Fragment d'un praktikon," passim.

<sup>273</sup> As witnessed by Odo of Deuil (PL 185:1221), Clavijo (in 1403: *Narrative of the Embassy of Ruy Gonzalez de Clavijo*, ed. C. Markham [London, 1859; repr. New York, 1970] 68, 69, 76, 79), and Pachymeres (*Georgii Pachymeris De Michaele et Andronico Palaeologis libri XIII*, ed. I. Bekker [Bonn, 1835], 1:164).

<sup>274</sup> As witnessed by Nicolo de Martoni in the late 14th century; see D. Zakythinis, *Le despotat grec de Morée*, 2 vols. (Athens, 1953), 2:175.

<sup>275</sup> Tafrafi, *Thessalonique*, 143; Vavylopoulou-Charitonidou, "Céramique d'offrande," 209 n. 1.

<sup>276</sup> See Bouras, "City and Village," 650; A. Avramea, "Φυσικό περιβάλλον και ανθρώπινη παρουσία: Ἀντιλήψεις καὶ εἰκόνες ἀπὸ τὸ ἀστικό τοπίο," in *Ἡ καθημερινὴ ζωὴ στὸ Βυζάντιο*, ed. Angelidi (as above, note 130), 687–94.

<sup>277</sup> Where there were scriptoria in which codices were copied and monk-craftsmen.

<sup>278</sup> Foss and Scott, "Sardis," 619.

<sup>279</sup> J. Travlos, *Pictorial Dictionary of Ancient Athens* (London, 1971), 403.

for marble architectural members to be made from ancient materials. In Athens, indeed, the countless middle Byzantine architectural members found in ornamental use make it almost certain that they did not originate in churches but came from the yards of marble sculptors whose activities were encouraged by the abundance of the raw material and who sold prefabricated marble sections on a large scale.

Building activity in the middle Byzantine city differed from that of the European cities of the same period in another respect: it did not include the construction of cathedrals. In the medieval western cities of the eleventh, twelfth, and thirteenth centuries, the erection of a cathedral involved a huge capital investment and the labor of hundreds of skilled and unskilled workers.<sup>280</sup> In Byzantium, building was on a much smaller scale and consisted largely of the construction, at the expense of the state, of fortifications to defend the city.

Few Byzantine houses dating from the period between the eighth and the fifteenth century can be studied in the provincial cities of the empire; the majority of those accessible are ruined, small,<sup>281</sup> and built of cheap materials.<sup>282</sup> In the context of economic history, I examine here the archaeological and other evidence relevant to production and consumption in the houses of the Byzantine city. The fact that we have only the ground floors of the houses limits our scope for study of the productive areas in the rooms that could be lived in. It is clear that everyday clothing and items that were the result of the processing of agricultural produce were made privately, in the home. The view has also been put forward that workshops—combined with houses—were rented by craftsmen from large landowners in order to increase production, especially of silk.<sup>283</sup> Cases of mills on the ground floors of houses have come to light in Pergamon,<sup>284</sup> and they existed in Constantinople, as we can see from the *Diataxis* of Michael Attaleiates.<sup>285</sup>

<sup>280</sup> X. Barral i Altet, *L'art médiéval* (Paris, 1991), 23.

<sup>281</sup> See the observations of Foss and Scott, "Sardis," 618, and the size of the houses of Geraki in *Δελτ.Χριστ.Αρχ.Έτ.* 15 (1989–90): 66–88. Further confirmation of the small size of the houses comes from N. Oikonomides' argument that there was no movable furniture in them; see N. Oikonomides, "The Contents of the Byzantine House from the Eleventh to the Fifteenth Century," *DOP* 44 (1990): 206–14. At Geraki (as above, 81), the beam sockets in the upper-story rooms are evidence of the presence of a fixed wooden *kravata*.

<sup>282</sup> For typological and other observations on the houses of middle Byzantium, see Bouras, "Houses in Byzantium," *Δελτ.Χριστ.Αρχ.Έτ.* 11 (1982–83): 1–26; for a general bibliography, see nn. 2–11. See also S. Eyice, "Quelques observations sur l'habitat byzantin en Turquie," *Anadolu Araştırmaları* 10 (1986): 513–30; D. Papachryssanthou, "Maisons modestes à Thessalonique au XIV s.," in *Ἀμνητὸς στή μνήμη Φ. Ἀποστολοπούλου* (Athens, 1984), 254–67; P. Lemerle, "La *Diataxis* de Constantin Attaliate (mars 1077)," in *Cinq études* (as above, note 196), 77–80, and M. Živojinović, "The Houses of the Hilandar Monastery in Thessalonike during the Fourteenth Century," in *ΤΟ ΕΛΛΗΝΙΚΟΝ*, ed. Langdon et al. (New York, 1993), 1:465–74.

<sup>283</sup> Jacoby, "Silk," 479.

<sup>284</sup> W. Radt, "Die byzantinische Wohnstadt von Pergamon," in *Wohnungsbau im Altertum* (Berlin, 1979), 199–223.

<sup>285</sup> Published by P. Gautier, "La *Diataxis* de Michel Attaliate," *REB* 39 (1981): 27–29.

The care that was taken to provide storage space for commodities in houses is confirmed by both texts and archaeological finds. It is very difficult to distinguish instances of householders who had their own sources of agricultural produce from those who, in good time, procured supplies for the entire year.<sup>286</sup> The tendency toward self-sufficiency advocated by the prudent Kekaumenos<sup>287</sup> presupposed the presence of storerooms in the house and also dictated the cultivation of fruit trees on the domestic property,<sup>288</sup> sometimes to excess.<sup>289</sup> The picture provided by the excavations is an eloquent one: in all cases, the ground floors or semibasements of the houses are arranged as cellars, with storage jars partially or completely sunk into the ground. Recent excavations, too, have revealed the same picture.<sup>290</sup> In the shops of Pergamon,<sup>291</sup> and above all in the granaries of monasteries,<sup>292</sup> the same things are to be seen—well preserved but difficult to date.

The question of ground-floor cellars has been discussed elsewhere,<sup>293</sup> but additional examples can be provided.<sup>294</sup> The storage vessels were usually earthenware jars, but there are also cases of stone receptacles<sup>295</sup> whose interior was lined with strong waterproof mortar or that were hewn out of the natural rock,<sup>296</sup> in which case they were sometimes waterproofed and sometimes not. The jars have been studied independently, as everyday utensils, by A. L. Jakobson<sup>297</sup> and more recently by Ch. Bakirtzis,<sup>298</sup> who deal with their names, shapes, and uses. However, the question of interest to economic history, that of the capacity of Byzantine storage jars and consequently of the variations in the storage space of Byzantine houses in various places and at various times, has not been answered. Although excavations have yielded hundreds of such

<sup>286</sup> See Kazhdan and Epstein, *Change*, 47; according to the *typon* of the Kosmosoteira monastery.

<sup>287</sup> Kekaumenos, chaps. 35, 47, 52.

<sup>288</sup> Kazhdan and Epstein, *Change*.

<sup>289</sup> Ioannis Tzetzes, *Epistolae*, ed. T. Pressel (Tübingen, 1851), 19.

<sup>290</sup> As in the case of two unpublished buildings in Athens: a site south of the Acropolis, at 35 Dionysios Areopagites Street, on the corner of Kallisperi Street, and a Roman bath on Amalias Street, which was converted into a house during the 11th and 12th centuries (revealed during excavations for the Athens Underground, 60 m north of the Byron monument).

<sup>291</sup> Rheidt, "Pergamon," 628.

<sup>292</sup> Orlandos, *Μοναστηριακή ἀρχιτεκτονική*, 74–75.

<sup>293</sup> Bouras, "City and Village," 617–37; idem, "Houses," 8–14. The storage vessels are not mentioned in Byzantine deeds of inheritance of the 11th to 15th century (Oikonomides, "Contents"), but it is clear that they were not regarded as movable property: since they were built into the floor of the lowest story, they were part of the house.

<sup>294</sup> T. L. Shear, Jr., "The Athenian Agora: Excavations of 1980–82," *Hesperia* 53 (1984): 32; Makri et al., "Τὸ Πιζόκαστρο," 344–50; Kazanaki-Lappa, "Medieval Athens," 643; Louvi-Kizi, "Thebes," 634; *ΑΔ* 29.2 (1975): 204–5, and *JHS Archaeological Reports* 26 (1979–80): 31 (Palaia Epidauros); *ΑΔ* 34.2 (1979): 158 (Lakedaimon); *ΑΔ* 36.2 (1981): 189 (Thebes); *ΑΔ* 32.2 (1977): 284–85; *ΑΔ* 40.2 (1985): 285, and *ΑΔ* 41.2 (1986): 191–93 (Didymoteichon).

<sup>295</sup> Identified by small stones or fragments of brick and tile; see Scranton, *Mediaeval Architecture*, 131–32, with descriptions of other storage structures, mostly of the 12th and 13th centuries.

<sup>296</sup> As at Didymoteichon; see *ΑΔ* 32.2 (1977): 284–85, and *ΑΔ* 40.2 (1985): 287.

<sup>297</sup> A. L. Jakobson, "Srednevekovye pifosi Severnogo Prichernomoria," *SovArh* (1966): 189–202, and idem, *Keramika i keramicheskoe proizvodstvo srednevekovoi Tavriki* (Leningrad, 1979).

<sup>298</sup> Βυζαντινὰ τσουκαλόλαγνα, 110–21.

jars (whole, in fragments, or in the form of their imprint in the ground that supported them), they have never been studied in terms of metrology,<sup>299</sup> while the simplicity of their shape (usually involving horizontal ribbed rings) is a discouragement to any attempt to date them.

The texts and archaeological finds also make it plain that attempts were made to ensure that the houses in the Byzantine city were self-sufficient in terms of water. There are references<sup>300</sup> to wells in the courtyards of houses,<sup>301</sup> water tanks,<sup>302</sup> and rainwater butts or pits, of a form similar to storage pits.<sup>303</sup> Structures of this kind have been found. Facilities for supplying the townspeople with water have not been discovered in middle Byzantine cities, and the case of Thebes remains somewhat obscure since we do not know whether the system that supplied the workshops was also in use for the public fountains and houses.<sup>304</sup>

Byzantium differed from medieval Europe in that landowners and other “powerful people” dwelt in the cities. Apart from the palaces built at Mistra, Trebizond, and Arta after the political and administrative fragmentation resulting from the Fourth Crusade, we know of various instances of luxurious houses<sup>305</sup> that must certainly have belonged to powerful people and represented major financial investments. However, with the exception of Kherson,<sup>306</sup> Preslav,<sup>307</sup> and possibly of Mistra,<sup>308</sup> it does not appear that there was any separation among social classes in terms of the part of the city in which they lived.

In archaeological terms, there is still no material evidence of the presence of Jews in the middle or late Byzantine city:<sup>309</sup> not a single synagogue has yet been found, and there appears to be no way of distinguishing between the dwellings of Jews and Christians. On the other hand, there is a relative abundance of written information, which indicates that, at various times, efforts were made to isolate the Jews<sup>310</sup> or expel them

<sup>299</sup> *Ibid.*, 110 n. 5.

<sup>300</sup> Ph. Koukoules, “Περὶ τὴν βυζαντινὴν οἰκίαν,” *ΕΕΒΣ* 12 (1936): 135–38.

<sup>301</sup> As, for example, in a large house in Corinth south of the south stoa. See H. Robinson, “American Excavations at Corinth,” *ΑΔ* 19.2 (1964): 100, pl. 103b.

<sup>302</sup> As, for example, at Mouchli. See N. Moutsopoulos, “Βυζαντινὰ σπίτια στὸ Μουχλί τῆς Ἀρκαδίας,” *Βυζαντινά* 13 (1985): 326.

<sup>303</sup> As, for example, at Didymoteichon. See *ΑΔ* 40.2 (1985): 287.

<sup>304</sup> Louvi-Kizi, “Thebes,” 634–37.

<sup>305</sup> Such as the so-called small palace and Laskaris house at Mistra. See Orlandos, “Μυστρῶς,” 1–114, and A. and C. Kalligas, “Τὸ σπίτι τοῦ Λάσκαρη στὸ Μυστρῶ,” *Δελτ.Χριστ.Ἀρχ.Ἐτ.* 13 (1985–86): 261–77.

<sup>306</sup> Bortoli and Kazanski, “Kherson,” 659, 664.

<sup>307</sup> Jordanov, “Preslav,” 668.

<sup>308</sup> Orlandos, “Μυστρῶς,” 9.

<sup>309</sup> With the exception of some tombstones, certainly not in their original location.

<sup>310</sup> A partial bibliography would include Jacoby, “Les quartiers juifs,” 127–227; Jacoby, “Silk,” *passim*; idem, “Les Juifs de Byzance: Une communauté marginalisée,” in *Οἱ περιθωριακοὶ στὸ Βυζάντιο*, ed. Ch. Maltezou (Athens, 1993), 103–54; J. Starr, *The Jews in the Byzantine Empire, 641–1204* (Athens, 1939), 43ff. For Strobilos, see Foss, “Strobilos,” 164, 167; for Thessalonike, see Tafrafi, *Thessalonique*, 144, 145; for Thebes, see Louvi-Kizi, “Thebes,” 637–38; for Lakedaimon, see S. Bowman, “The Jewish Settlement in Sparta and Mistra,” *BNJ* 22 (1977–84): 131–46; for Bari, see V. von Falkenhausen,

from the city.<sup>311</sup> Given the involvement of Jews in the manufacturing sector, this phenomenon is of a certain interest from the point of view of economic history.

The same reasoning explains the reference here to the separate communities of foreign merchants that appeared in Byzantium at an ever-increasing rate. Apart from the well-known communities in Constantinople, there were foreign merchants in the cities of Asia Minor,<sup>312</sup> Russians in Kherson,<sup>313</sup> unspecified “Franks” in Tŭrnovo,<sup>314</sup> and Venetians and Pisans in Thessalian Almyros.<sup>315</sup> It is probable that three medieval towers recently identified at the latter city<sup>316</sup> were in some way connected with these foreign communities.

With the exception of the arrangements for the city’s security, already discussed, the amenities providing services for the Byzantine city dwellers are of limited and indirect importance for the economic history of the empire. In any case, very few archaeological traces of them have remained to study. However, a brief description of these facilities may be of some value, since they were connected with the urban way of life of ancient times as well as with land use in the provincial cities of the Middle Ages.

There seems little doubt that—other than in cities such as Mistra, Trebizond, and Arta, which became administrative centers during the late Byzantine period—public buildings were few in number.<sup>317</sup> Here there is a sharp contrast with the cities of the ancient Greek, Roman, and early Christian periods, and with the towns of medieval Europe.<sup>318</sup> The building called the *Praitorion* was the residence of the *strategos* of the theme;<sup>319</sup> it would have had premises for the guard, an office with an archive, and a prison. Kekaumenos<sup>320</sup> sees it as a location for meetings, which is difficult to understand if we assume that it was located in the acropolis, entry to which was not permitted to ordinary citizens for security reasons. In the past, it was believed that an administrative building of this type had been recognized in Corinth,<sup>321</sup> but the identification has

*La dominazione bizantina nell'Italia meridionale dal IX al XI secolo* (Bari, 1978), 158; for Andros, see Orlandos, “Βυζαντινὰ μνημεῖα τῆς Ἀνδρου,” n. 2; and for Patras, see A. Mourtzali, “Ἡ Ἐβραϊκὴ κοινότητα Πατρῶν κατὰ τοὺς βυζαντινοὺς καὶ μεταβυζαντινοὺς χρόνους,” in Ἐταιρεία Μελέτης Ἑλληνικοῦ Ἐβραϊσμοῦ. Πρακτικὰ Ἀ΄ Συμποσίου Ἱστορίας (Thessalonike, 1991). In the lower city of Rhodes, during the first period of rule by the Knights of St. John, there were two Jewish quarters, the Upper and the Lower, outside the walls and directly adjacent to the harbor.

<sup>311</sup> Lambros, “Ὁ βίος Νίκωνος τοῦ Μετανοεῖτε,” 163–66, 224.

<sup>312</sup> Vryonis, *Decline*, 10–13.

<sup>313</sup> Bortoli and Kazanski, “Kherson,” 664.

<sup>314</sup> Dochev, “Tŭrnovo,” 677. Here a castle of the Franks is mentioned.

<sup>315</sup> A. Avramea, Ἡ Βυζαντινὴ Θεσσαλία μέχρι τοῦ 1204 (Athens, 1974), 166–73.

<sup>316</sup> AD 37.2 (1982): 258; on the seafront at the spot known as Tsingeli and probably of the 12th century.

<sup>317</sup> Bouras, “City and Village,” 645.

<sup>318</sup> R. Lopez, “L’architecture civile des villes médiévales: Exemples et plans de recherche,” in *Les constructions civiles d’intérêt publique dans les villes d’Europe au Moyen Age* (Brussels, 1971), 15–31, 201–7.

<sup>319</sup> Constantine Porphyrogenetos, *De Thematribus et de Administrando Imperio*, ed. I. Bekker (Bonn, 1840), 16–17.

<sup>320</sup> Kekaumenos, chap. 35.

<sup>321</sup> Scranton, *Mediaeval Architecture*, 46–47.

now been called into question.<sup>322</sup> Traces of public buildings, one of them a mint, have been found at Kherson,<sup>323</sup> and palaces, the residence of the patriarch, and administrative chambers have been recognized in the inner city of Preslav.<sup>324</sup> The prison of Ephesos, known to us from an incident during the iconoclastic controversy,<sup>325</sup> was housed in an abandoned ancient bathhouse, as was the prison of Constantinople, known by the name of *Noumera*.<sup>326</sup> In late Byzantine palaces such as those of Mistra and Trebizond, there must certainly have been provision for administrative services of all kinds, but it is not possible to identify separate functions amid the ruins that have survived.

The aqueducts of the Byzantine cities have never been studied systematically, and our knowledge of them is very limited. Very few of the aqueducts of late antiquity survived the Dark Ages, and they were largely replaced by tanks, rainwater cisterns, and wells during the middle Byzantine period. However, Thessalonike retained the early Christian system of aqueducts, which supplied it with water from Mount Hortiates and the underground tanks<sup>327</sup> that had been constructed, like those in Constantinople, to allow the city to withstand a prolonged siege. I have already noted the system by which the workshops of Thebes were supplied with water; components of it are constantly being revealed by excavations,<sup>328</sup> and we do not know how far they ought to be connected with the aqueduct of St. John Kaloktenes, dating from the twelfth century.<sup>329</sup> The aqueduct of Hadrian in Athens was certainly still in operation during the middle Byzantine period. In Mistra a new aqueduct brought water to the upper gate of the city.

Much has already been written of the altered significance of bathhouses in the everyday life of Byzantine cities after the Dark Ages.<sup>330</sup> The written sources supply a wide range of information<sup>331</sup> not only about the existence and operation of baths during the period under examination but also about their economic significance. Public baths were leased to those who operated them,<sup>332</sup> and others were owned by monasteries,<sup>333</sup>

<sup>322</sup> Sanders, "Corinth," 650.

<sup>323</sup> Bortoli and Kazanski, "Kherson," 660, 662.

<sup>324</sup> Jordanov, "Preslav," 668.

<sup>325</sup> "Βίος Ἀγίου Στεφάνου τοῦ νέου," PG 100:1164ff.

<sup>326</sup> Müller-Wiener, *Bildlexikon* 51; for the baths of Zeuxippos, see R. Guiland, "Les Noumera," *REB* 19 (1961): 401–18.

<sup>327</sup> Tafrali, *Thessalonique*, 115–19.

<sup>328</sup> AD 41.2 (1986): 27–28, drawing 4, p. 30.

<sup>329</sup> A. Keramopoulos, "Θηβαϊκά," AD 3 (1917): 19, 123, and Louvi-Kizi, "Thebes," 634.

<sup>330</sup> C. Mango, "Daily Life in Byzantium," in *Akten XVI. Internationalen Byzantinistenkongress* (as above, note 5), 338ff; A. Karpozilos et al., "Baths," *ODB*, 271ff.

<sup>331</sup> Bouras, "Town and Village," 643–44; A. Berger, *Das Bad in der byzantinischen Zeit* (Munich, 1982), 1–172.

<sup>332</sup> Μεσαιωνική Βιβλιοθήκη, ed. K. Sathas, 8 vols. (Venice-Paris, 1872–94; repr. Athens, 1972), 6:624: types of Byzantine contract: ἄκτος πακτωτικοῦ λουετροῦ (contract for a bath under *pakton*), no. 15.

<sup>333</sup> S. Eustratiades, "Τυπικὸν μονῆς Ἀγίου Μάμαντος," Ἑλληνικά 1 (1928): 306, 307, and S. Lambros, "Ὁ Μαρκανδὸς κώδιξ 524," Νέος Ἑλλ. 8 (1911): 12, no. 36 (bath of the Hodegon monastery).

which also rented them out. The material remains of middle Byzantine bathhouses have quite frequently been found, or studied better, in recent years, including those of Lakedaimon,<sup>334</sup> Paramythia,<sup>335</sup> Corinth,<sup>336</sup> Episkopi (of Ierapetra in Crete),<sup>337</sup> Naupaktos,<sup>338</sup> and Ioannina.<sup>339</sup> It seems that the late Roman baths of Thessalonike<sup>340</sup> were used again, after slight modifications, in middle Byzantine times. Unfortunately, however, we have no information about the integration of these baths into the urban fabric or about how they were supplied with water during the periods when they were operating.

Open spaces for sports—known as *tzynganisteria*<sup>341</sup> in imitation of that of Constantinople—were, in the provinces, associated with the local aristocracy, who had retained some of the practices of late antiquity. There are references to such areas in Lakedaimon,<sup>342</sup> Athens,<sup>343</sup> and Ephesos,<sup>344</sup> and they can be tentatively identified in Trebizond.<sup>345</sup> By the middle Byzantine period, the stadiums of Thessalonike<sup>346</sup> and Serres<sup>347</sup> were distant memories. It is not clear where the *tzynganisteria* were located, but given that they must have been quite extensive, they should be sought outside the walls. That of Athens, according to the *Praktikon*, was inside the wall of Themistocles.

The inns of late antiquity, providing hospitality in the cities, seem to have survived into the middle Byzantine period, though there were certainly far fewer of them. At Pylai in Asia Minor there were state-owned caravanserais<sup>348</sup> for merchants, and at a later date there is a reference to an inn near Nicaea.<sup>349</sup> However, it was more common for hospitality to take the form of charity: Gregory Pakourianos built three hospices— at Stenimachos and Marmarion and in the monastery of St. Nicholas—endowing them with the revenue they would require.<sup>350</sup> Similar instances are also referred to in a *praktikon* of the fourteenth century<sup>351</sup> and in Athonite documents.<sup>352</sup> A guesthouse of this

<sup>334</sup> Ch. Bouras, “Ἐνα βυζαντινὸ λουτρὸ στὴ Λακεδαμονία,” Ἀρχ.Ἐφ. (1982): 99–112, pls. 19, 20.

<sup>335</sup> ΑΔ 29.2 (1973–74): 624, pl. 450, and ΑΔ 32.2 (1977): 163.

<sup>336</sup> Sanders, “Corinth,” 652.

<sup>337</sup> K. Mylopotamitaki, “Ὁ ναὸς τῶν Ἀγίων Γεωργίου καὶ Χαραλάμπου στὴν Ἐπισκοπὴ Ἱεράπετρας,” Δελτ.Χριστ.Ἀρχ.Ἐτ. 12 (1984): 446–48.

<sup>338</sup> ΑΔ 36.2 (1981): 293, pl. 194B; ΑΔ 37.2 (1982): 278, pl. 179.

<sup>339</sup> ΑΔ 38.2 (1983): 245–49.

<sup>340</sup> ΑΔ 35.2 (1980): 361–62.

<sup>341</sup> A. Kazhdan, “Tzykanisterion,” in *ODB*, 2137.

<sup>342</sup> Lambros, “Ὁ βίος Νίκωνος τοῦ Μετανοεῖτε,” 172, 225.

<sup>343</sup> Kazanaki-Lappa, “Medieval Athens,” 643.

<sup>344</sup> Foss, *Ephesus*, 109 n. 19.

<sup>345</sup> Bryer and Winfield, *Pontos*, 178.

<sup>346</sup> Tafrahi, *Thessalonique*, 127–29.

<sup>347</sup> Nikolaou, *Σερρών*, 35 n. 5.

<sup>348</sup> Vryonis, *Decline*, 13.

<sup>349</sup> A. Kazhdan and A.-M. Talbot, “Inn,” *ODB*, 995.

<sup>350</sup> Lemerle, “Le *typikon* de Grégoire Pakourianos,” 151.

<sup>351</sup> A. Guillou, *Les archives de Saint-Jean-Prodrôme sur le Mont Ménécée* (Paris, 1955), n. 35, p. 116.

<sup>352</sup> *Actes de Xénophon*, ed. D. Papachryssanthou, Archives de l’Athos (Paris, 1986), no. 23.22.

kind has been recognized in the ruins of the little monastery found during excavations in Corinth.<sup>353</sup>

Little by little, burial grounds came to be inside the walls of cities, in a departure from the practices of antiquity.<sup>354</sup> The picture revealed by excavations is not usually of a properly organized cemetery, but of scattered graves,<sup>355</sup> most of them impossible to date. As a result, we do not know in what circumstances, and why, it came about that the dead were buried even inside the citadels<sup>356</sup> or in a central part of the city. Without going very deeply into the matter, one could mention numerous instances of interments in apparently random positions,<sup>357</sup> close to or over the ruins of churches,<sup>358</sup> in empty parts of the city<sup>359</sup> and outside the walls.<sup>360</sup>

The absence of design and planning, and the drop in the value of land of which all the above is evidence, are connected with the problem of solid waste disposal. In the Middle Ages, of course, solid waste was not produced in great quantities, since most materials were consumed fully or recycled. It would seem that, as was also the case in other periods,<sup>361</sup> solid waste was dumped in abandoned buildings, streambeds, moats, and disused quarries. There is little written information from the eighth to the fifteenth century,<sup>362</sup> but some finds have come to light: the disused pits of manufacturing units in Thebes were used for the dumping of solid waste,<sup>363</sup> as were those close to the pottery works in Arta,<sup>364</sup> but in the early years of the rule of the Knights of St. John, rubbish was causing a problem in the harbor at Rhodes. Nikephoros Gregoras, writing in the fourteenth century, refers to the neglect of old buildings and the tendency for them to be given over to ignoble uses.<sup>365</sup> As for the drainage of storm water and liquid waste, suffice it to recall once again that there was a vast difference in terms of organization and planning between antiquity and the Byzantium of the middle period.<sup>366</sup> In Athens, the ancient drain along the Stoa Poikile, in the Agora, was still in use during the middle Byzantine period, as evidenced by the coins that have been found in its bed.

There are some references to warehouses for public use,<sup>367</sup> but in a manner very

<sup>353</sup> Sanders, "Corinth," 653.

<sup>354</sup> G. Dagron, "Le christianisme dans la ville byzantine," *DOP* 31 (1977): 11ff.

<sup>355</sup> Sanders, "Corinth," 648.

<sup>356</sup> As, for instance, in Athens.

<sup>357</sup> *AA* 34.2 (1979): 166; *AA* 36.2 (1981): 189–90; *AA* 41.2 (1986): 107, 109.

<sup>358</sup> *AA* 31.2 (1976): 99–102, 126.

<sup>359</sup> Vavylopoulou-Charitonidou, "Céramique d'offrande," 209 n. 1.

<sup>360</sup> *AA* 41.2 (1986): 175.

<sup>361</sup> Mango, *Byzantine Architecture*, 30 and 35 n. 2.

<sup>362</sup> Karpozilos, "Περὶ ἀποπάτων," 350–51.

<sup>363</sup> Louvi-Kizi, "Thebes," 636–37; *AA* 35.2 (1980): 218–19; *AA* 41.2 (1986): 29–30.

<sup>364</sup> *AA* 41.2 (1986): 107.

<sup>365</sup> Karpozilos, "Περὶ ἀποπάτων," 351–52.

<sup>366</sup> *Ibid.*, 350–51.

<sup>367</sup> Vryonis, *Decline*, 12 n. 49 (Nicaea): Attaleiates (*Michaelis Attaliothae Historia*, ed. I. Bekker [Bonn, 1858], 201–4) refers to the grain warehouses of Michael VII at Rhaidestos in Thrace (cf. Laiou, "Exchange and Trade," 742–43).

different from the practice in the Italian cities of the same period; the spreading use of cash for transactions meant that there was little point in constructing such buildings. A whole series of other special-purpose buildings that had been part of the urban fabric of ancient cities—theaters, libraries, physical education facilities, spaces for public meetings, and so on—were equally useless in the medieval cities of the Byzantine provinces and were not to be found there. Some of the functions they would have fulfilled—education,<sup>368</sup> the keeping of books<sup>369</sup> and of weights and measures<sup>370</sup>—were taken over by the churches and monasteries.

The churches that once stood in the cities or are part of their urban fabric even today might belong to monasteries, private individuals, or parishes. Their value for the economic history of Byzantium lies chiefly in the documentation they provide of the investment of larger or smaller sums of money. Where the structure of the city is concerned, their significance is connected primarily with their role as points of reference, centers for the parish, and places where the city dwellers could meet and contact one another.

This brief examination of the provincial cities of Byzantium has demonstrated the lack of uniformity in the information at our disposal and the impossibility of conducting systematic studies either of the urban fabric or of the evolution of individual cities. Reexamination and interpretation of the texts and, above all, exhaustive archaeological research into the remains that survive would enhance our information and allow us, in each case, to form detailed and convincing pictures of the cities of the empire in the Middle Ages. This, in turn, will more effectively provide material for the study of the economic history of Byzantium.

<sup>368</sup> Foss and Scott, "Sardis," 620; the cathedral as a local center of education in the time of Nikephoros Chrysoberges.

<sup>369</sup> Orlandos, *Μοναστηριακή ἀρχιτεκτονική*, 108–10.

<sup>370</sup> According to Novel 118 of Justinian, chap. 15, cited in G. Vikan and J. Nesbitt, *Security in Byzantium* (Washington, D.C., 1980), 31.