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Byzantine Town Planning – Does it Exist?

(with plates 8–21)

For Eduard Sekler

There are many equally valid, parallel approaches to the study of Byzantine cities. My approach is that of a practicing town planner and an architectural historian. Town planning today is concerned with physical properties of cities such as their topography, circulation patterns, pedestrian spaces, buildings, and urban accents; however, town planning is, and probably always was, equally concerned with urban functions, with the creation of new urban forms, with urban meanings, and with adjustments, in the course of time, to new requirements. As in all town planning, the results of the present investigation need to be complemented by those of other disciplines, for instance, (in this case) historians, economists, sociologists, and archaeologists.

Hundreds of cities that existed in the Byzantine region are known by name, and at times by their archaeological or contemporary remains[1]. Generally, two distinct phases in the history of these Byzantine cities have been determined: the earlier period, which begins with the era of Constantine and, depending upon local circumstances, ends between the 5th and the 8th century, and the later period, which ends with the end of Byzantine occupation at each site[2]. The possibility of continuity between the two phases remains an open, much discussed question, and some observations concerning one phase may also be relevant to the other.

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[1] For summaries, for instance, D. CLAUDE, Die byzantinische Stadt im 6. Jahrhundert. Munich 1969, 2–11; A. H. M. JONES, The Greek City from Alexander to Justinian. Oxford 1939, 85–94.

[2] For overviews W. LIEBESCHUETZ, The End of the Ancient City. In: J. RICH (ed.), The City in Late Antiquity. London 1992, 1–49; IDEM, Administration and Politics in the Cities of the Fifth to the Mid-seventh Century: 425–649. In: The Cambridge Ancient History, vol. 14: Late Antiquity: Empire and Successors, A.D. 425–600. Ed. by Av. CAMERON. Cambridge 2000, 207–37; IDEM, The Decline and Fall of the Roman City. Oxford 2001, *passim*; L. LAVAN, The late antique city: a bibliographic essay. In: L. LAVAN – W. BOWDEN (eds.), Recent research in late-antique urbanism (*Journal of Roman Archaeology, Supplementary Series* 42). Portsmouth, RI 2001, 9–26; M. MUNDELL MANGO, Building and Architecture. In: The Cambridge ancient history, vol. 14: Late antiquity: empire and successors, A.D. 425–600. Ed. by Av. CAMERON. Cambridge 2000, 112–33, 926–31; W. BRANDES, Stadt. Byzantinisches Reich. *LexMA* VIII (1997) 1–6; IDEM, Die Städte Kleinasiens im 7. und 8. Jahrhundert (*BBA* 56). Berlin 1989, 12–22 *et passim*; C. FOSS, Urbanism, Byzantine. *Dictionary of the Middle Ages* 12 (1989) 304–7; IDEM, Archaeology and the twenty cities of Byzantine Asia. *AJA* 81 (1977) 469–86; M. ANGOLD, The Shaping of the Medieval Byzantine `City´. *BF* 10 (1985) 1–37; C. MANGO, Byzantine Architecture. Engl. ed. revised, London 1986, 20–34; C. ROUECHÉ, Asia Minor and Cyprus: The Cities. The City and Countryside. The End of the Civic Era. In: The Cambridge Ancient History, vol. 14: Late Antiquity: Empire and Successors, A.D. 425–600. Ed. by Av. CAMERON. Cambridge 2000, 578–87; G.P. BROGIOLO – B. WARD-PERKINS, The Idea and Ideal of the Town between Late Antiquity and the Early Middle Ages (*The Transformation of the Roman World* 4). Leiden 1999; K. M. HATTERSLEY-SMITH, Byzantine Public Architecture between the Fourth and Early Eleventh Centuries AD, with Special Reference to the Towns of Byzantine Macedonia. Thessalonica 1996, 234–6; D. PARRISH (ed.), Urbanism in Western Asia Minor. New Studies on Aphrodisias, Ephesos, Hierapolis, Pergamon, Perge and Xanthos (*Journal of Roman Archaeology, Supplementary Series* 45). Portsmouth, RI 2001; IDEM, Introduction. The urban plan and its constituent elements. In: PARRISH, Urbanism (see above) 9–41; M. WHITTOW, Recent Research on the Late-antique City in Asia Minor: the Second Half of the 6th c. Revisited. In: LAVAN – BOWDEN, Urbanism (see above) 137–53; J.-M. SPIESER, La ville en Grèce du IIIe au VIIe siècle. In: Villes et peuplement dans l'Illyricum protobyzantin, Actes du colloque organisé par l'École française de Rome (Rome, 12–14 mai 1982) (*Collections de l'École Française de Rome* 77). Rome 1984, 315–38; E. A. IVISON, Urban Renewal and Imperial Revival in Byzantium (730–1025). *BF* 26 (2000) 1–46; B. WARD-PERKINS, Urban Continuity? In: Towns in Transition, Urban Evolution in Late Antiquity and the Early Middle Ages, eds. N. CHRISTIE – S. T. LOSEBY. Aldershot 1996, 4–17; A. WALMSLEY, Byzantine Palestine and Arabia: Urban Prosperity in Late Antiquity. In: Towns in Transition, Urban Evolution in Late antiquity and the Early Middle Ages, eds. N. CHRISTIE – S. T. LOSEBY. Aldershot 1996, 126–58; J.-P. SODINI, La contribution de l'archeologie a la connaissance du monde byzantin (IVe–VII sieces). *DOP* 47 (1993) 139–84, 144–50; A. KRIESIS, Greek Town Building. Athens 1965, 113–29, 142–66; C. BOURAS, City and Village: Urban Design and Architecture. In: XVI. Internationaler Byzantinistenkongress, Wien 1981 (= *JÖB* 31/2 [1981]) 611–53, 615f.; J. RICH, The City in Late Antiquity. London 1992; K.-P. MATSCHKE, Die byzantinische Stadt

Since examples range from the fourth century to the fifteenth, and from Spain to the Middle East, and since each city differs topographically and historically, diversity is perhaps the single most striking characteristic of Byzantine cities. Thus few, if any, generally valid conclusions concerning Byzantine cities may be drawn from the available evidence: most observations concerning one city, or one group of cities, may be contradicted by evidence from other, equally valid examples. Therefore, I will provide a collage of observations, rather than a summary of the evidence of town planning in the Byzantine realm. Many *other* observations concerning town planning are equally relevant.

THE EARLIER PERIOD

Imitation in Town Planning

Imitation is a tool that was used repeatedly in the planning of Byzantine cities. The forums of Constantinople provide the most prominent examples, since they were probably created, at least in part, in imitation of the forums of Rome (pl. 18, fig. 1)[3]. The Forum of Constantine, for instance, may have been intended to contribute to the identification of "New Rome" with "old" Rome by designing it with circular features that remind of the largest and most magnificent of the Roman forums, that of Trajan[4]. The political intention apparently behind the design of Trajan's Forum in Rome appears also to have been imitated in the Forum of Constantine: both were built to glorify the emperors responsible for their construction[5]. Similar colonnaded urban spaces with circular or oval floor plans were constructed in Syrian cities, for instance, at Antioch, Damascus, Philippopolis and Gerasa; while some of these may also have been modelled upon the Forum of Trajan, others may be the result of an "echo effect" of local imitations. Later examples of similar circular urban spaces, for instance, at Caričin Grad, on the other hand, are more likely to have been modelled upon the Forum of Constantine[6].

In a closely related development, honorific columns were erected as focal points in a number of locations in Constantinople, apparently modelled upon those that stood in the Roman Forum (pl. 12, fig 2, pl. 13, fig 1). For instance, the monumental column in the center of the Forum Tauri, laid out under Theodosius I, was designed using spiral decoration in imitation of that employed in the columns of Trajan and Marcus

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im Rahmen der allgemeinen Stadtentwicklung. Referate und Diskussion der byzantinischen Fachkonferenz in Leipzig, 9. bis 11. Januar 1990. Leipzig 1995; A. Kazhdan, Derenia i gorod v Vizantii IX–X vv. Moscow 1969; Idem, Vizantinskie goroda v VII – IX vekach. *SovArch* 21 (1954) 164–83; E. Kirsten, Die byzantinische Stadt. In: Berichte zum XI. Int. Byzantinistenkongress V/3, München 1958. Munich 1958, 1–48, *1–32* (notes); G. Ostrogorsky, Byzantine Cities in the Middle Ages. *DOP* 13 (1959) 47–66.

[3] Mango, Architecture (see n. 2), 24–34, for an overview of town planning in Constantinople from the fourth century to the sixth, and particularly 28 for an emphasis on elements which tied the new capital to Rome; Idem, Le developpement urbain de Constantinople (IVe–VIIe siècle) (*TM, Monographies* 2, 1985) 23–36; F. A. Bauer, Stadt, Platz und Denkmal in der Spätantike**.** Mainz 2000, *passim*, for a detailed comparison of the forums of Rome and Constantinople, including furnishings, functions and meanings; M. Restle, Konstantinopel. *RbK* 4 (1990) 366–738, 399–403, with a comparison between the Forum Tauri and Trajan's Forum; G. Dagron, Constantinople. Mégapoles méditerranéennes. Géographie urbaine rétrospective. Actes du colloque organisé par l'École française de Rome et la Maison méditerranéenne des sciences de l'homme, Rome, 8–11 Mai 1996. Paris 2000, 376–97.

[4] Even though the form of Constantine's Forum was not the same as that of Trajan, it was probably sufficiently similar to suggest a close parallel between the two spaces. The floor plan of Trajan's Forum is rectangular, with large circular additions on two opposite sides; the floor plan of the Forum of Augustus in Rome had similar circular additions, but the circular features of Trajan's Forum are architecturally more prominent. For the Roman Forums, G. Lugli, Itinerario di Roma Antica. Milan 1970, 329–69; F. Coarelli, Rom, ein archäologischer Führer. Freiburg–Basel–Vienna 1975, 112–33; J. B. Ward-Perkins, Architettura Romana. Milan 1979, 40–50, *et passim*; Idem, Cities of Ancient Greece and Italy: Planning in Classical Antiquity. New York 1974, 40–42; for the Constantinopolitan Forums, Mango, Architecture (see n. 2), 28–31; Idem, Constantinople (see. n. 3), 25f.; Restle, Konstantinopel (see n. 3), 399–403; W. Müller-Wiener, Bildlexikon zur Topographie Istanbuls. Tübingen 1977, 255–57; Bauer, Stadt (see n. 3), *passim*, for the fora in both cities.

[5] Bauer, Stadt (see n. 3), *passim*, emphasizes the political manifestations.

[6] Claude, Stadt (see n. 1)**,** 63–65, with the sources, more detailed descriptions, and a discussion of differences in function; Ward-Perkins, Planning (see n. 4), 41; for a summary of town planning at Gerasa see, Mango, Architecture (see n. 2), 20–3; A. J. Wharton, Refiguring the Post Classical City, Dura Europos, Jerash, Jerusalem and Ravenna. Cambridge 1995, 64–8; for the circular forum at Caričin Grad, see p. 59 and notes 9 and 10 below.

Aurelius in Rome. While some honorific columns in Constantinople, like those of Rome, supported statues of pagan deities, emperors, or notables, on other columns the statues were replaced by crosses[7].

The use of honorific columns in Byzantine cities may be visualized best today in the Piazetta of Venice, where two monumental columns that are well preserved stand at the south side of the square, near the Grand Canal (pl. 13, fig. 2). The columns were erected under the direction of Niccolo dei Barattieri after 1170. One column supports a representation of the lion of Saint Mark, the patron saint of Venice, and the other (of 1329) carries a figure of Saint Theodore, who was the patron saint of Venice at a time before the remains of Saint Mark were brought to the city in the ninth century. The columns and their carved images served as the symbolic and visual focal points of an urban space that may be thought of as the Forum of Venice. It was here, on the molo next to the columns, where Venetian and foreign dignitaries disembarked on their way to the political and religious heart of the city, including the Doge's Palace and the Church of San Marco. While the symbolism of the columns on the Piazetta may be understood in the context of civic, and other, medieval columns in Italy and Western Europe[8], their great size and striking appearance should probably be seen in terms of the "echo effect:" as was the case with the Church of San Marco, the models were probably to be found in Constantinople.

Caričin Grad, identified as Justiniana Prima, was one of the few towns that was newly designed and built during the Early Byzantine period (pl. 19a, fig. 1)[9]. It was created by Emperor Justinian to honor his own birthplace. Therefore, even though the town is small in size and remote in location, its forms probably reflect the Imperial "ideal city plan" of the time. The main, central portion of the town is roughly rectangular and was surrounded by walls. While the steep mountain top site required adjustments, the walls and other features are oriented approximately with the points of the compass. Two broad, straight, colonnaded streets that cross almost at right angles dominate the layout of the town center; they lead to fortified gates, that are partially preserved, in the defensive walls. Clearly, the major features of the town layout were designed in imitation of the military camp plan, including the *cardus* and *decumanus*, that was used repeatedly in town planning

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[7] M. Jordan-Ruwe, Das Säulenmonument (*Asia Minor Studien* 19). Bonn 1995, for a detailed account of examples in Antiquity and the Early Byzantine period, including those cited here; W. Haftmann, Das italienische Säulenmonument. Leipzig 1939, *passim* for a general overview of honorific columns, including the medieval and Renaissance periods; *ibidem*, 5–27 for examples from Classical Greece, 27–31 for Imperial Roman examples, 40–61 for Byzantine examples; also Coarelli, Rom (see n. 4), 116–127, for the Roman examples; for the Constantinopolitan examples also, Mango, Architecture (see n. 2), 28; Idem, Constantine's Column. In: C. Mango, Studies on Constantinople. Aldershot 1993, III:1–6; Idem, The Columns of Justinian and his Successors. In: C. Mango, Studies on Constantinople. Aldershot 1993, X:1–20; U. Peschlow, Eine wiedergewonnene byzantinische Ehrensäule in Istanbul. In: O. Feld – U. Peschlow (eds.), Studien zur spätantiken und byzantinischen Kunst Friedrich Wilhelm Deichmann gewidmet. (*Monographien des Römisch-Germanischen Zentralmuseums* 10). Mainz 1986, 21–33; Müller-Wiener, Bildlexikon (see n. 4), 52–5, 248–67; R. Brun, The Column of Theodosius II at Hebdomon and a Recently (1988) Discovered Monumental Column in Constantinople, at the Site of the Church of the Holy Apostles. *Bulletin Svenska Kommiten för Bysantinska Studier* 7 (1989) 21–8; Bauer, Stadt (see n. 3), 391–94 for a summary, and 350–62, for the observation that crosses on columns were not common before the second half of the sixth century, and a rejection of reports that they were first erected under Constantine; for further examples in other provincial Roman cities, W. Jobst, Ein spätantikes Säulenmonument in Ephesos. *IstMitt* 39 (1989) 245–55, 252f.; Claude, Stadt (see n. 1), 64.

[8] Tradition plausibly maintains that the huge monolithic red porphyry columns were spoils brought from the "East"; O. Demus, The Church of San Marco in Venice. Washington, D.C. 1960, 117f., including an analysis of the twelfth century sculpture of Venetian trades and professions on the column bases; M. Grundy, Venice, an Anthology Guide. London 1971, 19f.; G. Rösch, Venedig, Geschichte einer Seerepublik. Stuttgart 2000, 42–64 for the Venetian historical background, including relations with the Byzantine empire; Haftmann, Säulenmonument (n. 7), 119–27 for the Piazetta columns in the context of Western medieval columns of justice, of victory, and of civic pride, and 84–86 for the representation, in the mosaics of San Marco, of a column bearing a figure of a pagan god; D. Howard, The Architectural History of Venice. London 1980, 80, for the medieval buildings next to the Piazetta, including a Palace of Justice and a Communal Palace, before the fourteenth century construction of the present Doge's Palace; W. Dorigo, Venezia Romanica. Venice 2003, 285–98 for the Piazetta and adjacent buildings and spaces in the 11th–13th centuries; public executions were held next to the columns at one time.

[9] C. Vasić, Le plan d'urbanisme de la ville haute: essai de Reconstitution. In: Caričin Grad 2, Le Quartier Sud-ouest de la Ville Haute, eds. B. Bavant – V. Kondic – J.-M. Spieser – C. Vasić. Belgrade – Rome 1990, 307–15; Mango, Architecture (see n. 2), 24; B. Bavant, La ville dans le nord de l'Illyricum (Pannonie, Mésie I, Dacie et Dardanie). In: Villes et peuplement dans l'Illyricum protobyzantin, Actes du colloque organisé par l'École française de Rome (Rome, 12–14 mai 1982) (*Collections de l'École Française de Rome* 77). Rome 1984, 245–87, 272–85.

during the Roman period in many parts of the Empire[10]. At Caričin Grad the grades outside the west, north and east city gates are so steep that normal roads could hardly have continued from the town in those directions, demonstrating that the Roman model was adhered to even where it served its function inadequately[11]. We have observed above, that the round, forum-like open space at the crossing of the two main streets of Čaričin Grad probably also reflects imitation. Thus, the ideal city of the Justinianic period appears to reflect a strong emphasis upon historic Imperial Roman roots.

A different aspect of imitation may be observed at Ephesos. Here the two major churches of the city, which ranked among the prime churches of the Empire, were apparently modelled upon the two major churches of Constantinople. The Church of Saint John, with its domed cruciform floor plan, was built in imitation of the Church of the Holy Apostles, and the Church of the Virgin, after its reconstruction as a domed basilica, was at least in this important respect similar to Saint Sophia[12]. Both imitations appear to underline the fact that Ephesos was the largest city of Asia Minor, the residence of the Governor of Asia, and one of the major cities of the Empire[13]: because of the similarities in the forms of the two major churches of both cities, Ephesos (probably more than any other city) became comparable with the capital. Justinian's patronage of the construction of Saint John's implies that the comparison between Ephesos and Constantinople, if not necessarily initiated by the Emperor, at least met with his approval. In the same spirit the erection on the main street of Ephesos of four monumental columns apparently bearing statues of the four Evangelists was probably carried out in imitation of the honorific columns of the capital, and could thus have served to underscore still further the close relationship between the two cities[14].

Limited Christian Impact on Town Planning

An observation that may seem obvious, but that has received insufficient attention in this context is that both major churches of Rome are located at the edge of the city. The Cathedral of Rome, Saint John's of the Lateran, was constructed under Constantine just inside the walls, about one mile from the Forum, and Saint Peter's was built, almost twice as far from the Forum, outside the walls[15]. None of the major churches of Rome was built in the center of the city: in the Early Byzantine period an inhabitant walking in or near the Roman Forum would have encountered no monumental Christian building. While there are good explanations for the locations of Saint John's and Saint Peter's, the center of Rome was not unique in its lack of Christian impact during this period. For instance, a very large basilica, probably the Constantinian Cathedral of Ostia, was recently found by German excavators just inside the walls of the city, away from the city center[16], and

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[10] The similarity to earlier models is generally accepted; for instance, Vasić, Plan, 307; for earlier town plans based upon the military camp plan, Ward-Perkins, Planning (see n. 4), 27–30; for other cities of the period with similar street plans, Hattersley-Smith, Architecture (see n. 2), *passim*; Wharton, City (see n. 6), *passim*.

[11] The grade at the west gate, for instance, slopes 1:5; Caričin Grad I, Pl. 2 for the topography.

[12] See Notes 31, 33 below; H. Buchwald, Saint Sophia, Turning Point in the Development of Byzantine Architecture? In: V. Hofmann (ed.), Die Hagia Sophia in Istanbul. Akten des Berner Kolloquiums vom 21. Oktober 1994 (*Neue Berner Schriften zur Kunst* 3). Bern 1997, 29–48, 43–45; Idem, Retrofit – Hallmark of Byzantine Architecture? In: H. Buchwald, Form, Style and Meaning in Byzantine Church Architecture. Aldershot 1999, VIII:1–22, 17.

[13] C. Foss, Ephesus after Antiquity: a Late Antique, Byzantine and Turkish City. Cambridge 1979, 13–45.

[14] See p. 63 and note 30 below.

[15] P. Testini – G. Cantino Wataghin – E. L. Pani Ermini, La cattedrale in Italia. In: Actes du XIe Congrès International d'Archéologie Chrétienne, 1986, I–III (*Studi di Antichità Cristiana* 41 = *Collection de l'École Française de Rome* 123). Rome 1989, 5–231, 14–18; L. Reekmans, L'implantation monumentale chrétienne dans le paysage urbain de Rome de 300 à 850. In: Actes du XIe Congrès International d'Archéologie Chrétienne, 1986, I–III (*Studi di Antichità Cristiana* 41 = *Collection de l'École Française de Rome* 123). Rome 1989, 861–915; R. Krautheimer, Rome, Profile of a City, 312–1308. Princeton 1980, 18–28; for early churches in the Roman Forum, which were modest in size, K. Gulowsen, The Cult of the Forty Martyrs on the Forum Romanum. *Acta Hyperborea* 8 (2001) 235–48.

[16] F. A. Bauer – M. Heinzelmann – A. Martin – A. Schaub, Untersuchungen im Bereich der konstantinischen Bischofskirche Ostias. *RM* 106 (1999) 289–341; Testini Cattedrale (see n. 15), 36–7 and *passim*, for a summary of other cathedrals in Italy which were located near the city walls rather than near the city center; A. Wolff, Zur Lage der frühchristlichen Kirche in der Stadt. In: Akten des XII. internationalen Kongresses für christliche Archäologie, Bonn 1991 (SAC 52. *JbAC* Erg.-Bd. 20,2 [1996]) 1295–1308 with an attempt to explain the locations of some Christian centers of worship during the early period just inside the city walls, concentrating upon examples in the West.

the Cathedral of Cologne was also located next to the defensive city walls[17]. Indeed, Kara Hattersley-Smith points out that in Athens, Corinth and other towns of the region the Christian centers of construction and worship were not located near the city centers until the end of the fourth century, or even until the late fifth[18]. The decentralized locations of the major churches of Rome therefore appear to fit into an important, if not generally applicable, pattern.

A lack of strong Christian impact on the appearance of towns may also be observed where monumental buildings of Antiquity were transformed into important churches. For instance, the Parthenon had been the ceremonial and visual focal point of Athens and the surrounding countryside for more than eight centuries when it was transformed into the cathedral of the city[19]. On the exterior, the only noticeable change was the addition of an apse at the east end of the Parthenon, within the peristasis, a change that could not be seen from most vantage points of the city (pl. 14, fig. 1). Therefore, in terms of town planning, the most important and most prominent church of Athens could not readily be identified as a Christian building.

Athens, because of its history, may be a special case, but it is not unique. For instance, at Pergamum the Kizil Avli, a Roman temple of the Egyptian gods, was also transformed into a Christian basilica (pl. 14, fig. 2). While it is not as prominently situated as the Parthenon, because the Kizil Avli stands on an important site between the upper and lower cities, and because of its great size, it must have been a striking feature in the cityscape. The exterior walls of the Kizil Avli stand almost to their original heights and, except for the east facade, show no signs of changes that may have been made when the building was converted into a church. The Kizil Avli therefore appears to be another example of a major church, by far the largest known at Pergamum, which, within the urban fabric of the town, was not readily identifiable as a Christian building[20].

Ephesos is also a case in point. It provides an informative example of a city of this period, not only because it was one of the major cities of the Empire, but also because it does not lie underneath modern buildings, making extensive excavation possible (pl. 19b, fig. 2)[21]. Its streets are laid out on the standard Greco-Roman grid pattern which originated, in the Greek world, with Hippodamos of Miletos in the sixth century B.C.; the

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[17] N. Gauthier, Les premières cathédrales de Cologne bilan de 45 années de fouilles. In: Orbis romanus christianusque ab Diocletiani aetate usque as Heraclium. Traveaux sur l'Antiqué Tardive rassemblés autour des recherches de Noël Duval. Paris 1995, 99–128, figs. 1a–e.

[18] Hattersley-Smith, Architecture (see n. 2), 169, 205, 236; Claude, Stadt (see n.1), 89–96 for an overview of church locations in cities of the period, and 36f. for cities in Africa with churches, including cathedrals, outside the walls.

[19] C. Mango, The Conversion of the Parthenon into a Church; The Tübingen Theosophy. *DChAE* 18 (1995) 201–3; F. W. Deichmann, Die Basilika im Parthenon. *Mitteilungen des Deutschen Archäologischen Instituts, Athenische Abteilung* 63–64 (1938–39) 127–39; Buchwald, Retrofit (see n. 12), 2–9, 20–2; B. Ward-Perkins, Re-using the architectural legacy of the past: entre ideologie et pragmatisme. In: Brogiolo and Ward-Perkins, Town (see n. 2), 225–44, 233–40, for a discussion of the conversion date and circumstances; P. Castren, Paganism and Christianity in Athens and Vicinity during the Fourth to Sixth Centuries A.D. In: Brogiolo – Ward-Perkins, Town (see n. 2), 211–23, particularly 219–20; F. W. Deichmann, Christianisierung. *RAC* 2 (1954) 1228–41 for temple conversions generally; Idem, Frühchristliche Kirchen in antiken Heiligtümern. *Jahrbuch des Deutschen Archäologischen Instituts* 54 (1939) 105–36, for further examples of similar conversions; also G. Dagron, Le christianisme dans la ville byzantine. *DOP* 31 (1977) 3–25, 4f.; Roueché, Cities (see n. 2), 579; J.–M. Spieser, La christianisation des sanctuaires paiens en Grèce. In: Neue Forschungen in griechischen Heiligtümern. Tübingen 1976, 309–20.

[20] O. Deubner, Das Heiligtum der alexandrinischen Gottheiten in Pergamon genannt "Kizil Avli" ("Rote Halle"). *IstMitt* 27/28 (1977–78) 227–50, 238f. for the original marble facade sheathing, 241 for the changes to the east facade, 249f, pls. 58–60, 62, 65 for the conversion, and for the poetically expressed observation: "Und doch steckte sie wie eine Uhr im Futteral, geborgen und verborgen in dem gewaltigen Gehäuse des heidnischen Tempels"; K. Rheidt, Die Stadtgrabung, Teil 2, Die byzantinische Wohnstadt (*Altertümer von Pergamon* XV/2). Berlin–New York 1991, 193f., 226–9. The church may well have been the Cathedral of the city.

[21] Foss, Ephesus (see n. 13), 46–99 for a convenient overview of the material remains and their history, with references to the excavation reports and to earlier scholarship; Idem, Twenty Cities, 472–75; Mundell Mango, Building (see n. 2), 931f.; S. Karwiese, Gross ist die Artemis von Ephesos. Vienna 1995, 126–42; P. Scherrer, The city of Ephesos from the Roman period to Late Antiquity. In: Ephesus, Metropolis of Asia. An interdisciplinary approach to its archaeology, religion,and culture. Ed. H. Koester (*Harvard Theological Studies* 41). Valley Forge, Penn. 1994, 1–25; Idem, The historical topography of Ephesos, in: Parrish, Ephesos (see n. 2 above), 57–95 with an emphasis upon the period before Christianity became evident; H. Halfmann, Städtebau und Bauherren im römischen Kleinaisen. Ein Vergleich zwischen Pergamon und Ephesos. Tübingen 2001, *passim*, for the early Imperial Roman period; Whittow, City (see n. 2), 147–9.

straight streets of the grid are maintained even on very steep slopes[22]. The long, wide, elegant, colonnaded main street of the city, the Arcadiane, gave access from the harbor in the west to the heart of the city; it was rebuilt by Arcadius, but originated many centuries earlier, and is typical of prominent streets that date from the Imperial Roman period in numerous cities (pl. 15, fig. 1)[23]. The shorter, but also elegant, richly furnished colonnaded street called Embolos was probably the commercial center of the city; as an exception, it does not lie on the rectangular grid and it may have existed before the grid was introduced[24]. Large, rectangular, colonnaded open spaces that are laid out within the grid plan provide spacial accents and activity centers: the Lower Agora, near the center of the city, was used primarily for commerce, and the Upper Agora, on higher ground at the southeast end of the Embolos, was the civic center; a very large Palaestra was located next to the Arcadiane[25].

The appearance of Ephesos was dominated by a number of monumental buildings, all of which were oriented with the grid plan of the streets. The large theater is located on the steep lower slopes of the Panayir Dag, bordering the center of the city on the east. Six baths and gymnasiums have been excavated, two of them very large and near the city center. Imposing temples are located near each agora, and a large temple complex of Zeus Olympus occupies a low hill north of the Palaestra and the Harbor Bath. A Prytaneum and Senate House are located next to the Upper Agora. Usually small shops line the major streets and the perimeters of the agoras. Gates, monuments, statues, and fountains create accents and points of interest[26].

The residential quarters of Ephesos, which were excavated near the Embolos, are tightly packed with little or no space between the buildings; most of their walls stand parallel with the streets, producing an extensive orthogonal pattern of dwellings. At least some houses had more than one floor, and they were usually terraced, because they were constructed on steep slopes. Daylight entered the houses primarily through small or medium sized courtyards, some with peristyles[27].

Most major buildings and other features of Ephesos outlined above were constructed before our period[28]. However, from the fourth to the sixth century there were also numerous building projects, for instance, a new Governor's Palace, the remodelling of the Arcadiane and Embolos, the reconstruction of the Harbor Bath, the conversion of the large Palaestra and Upper Agora into housing areas, and reconstructions or modifications of almost all of the known structures[29]. Most of these projects involved previously constructed facilities, and

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[22] F. Hueber, Zur städtebaulichen Entwicklung des hellenistisch-römischen Ephesos. *IstMitt* 47 (1997) 251–64; for the grid plans of early Byzantine cities, Claude, Stadt (see n. 1), 41–54; S. Aktüre, Some Observations on the Use of 'Gridiron' Plan in Anatolian Cities. In: Çağlar boyunca anadolu'da yerleşim ve konut uluslararasi sempozyumu, 5–7 Harziran 1996 (International Symposium on Settlement and Housing in Anatolia Through the Ages). Istanbul 1999, 31–48, with a general overview and further examples in Asia Minor; for contemporary and earlier examples, including the Hippodamian scheme, Ward-Perkins, Planning (see n. 4), 14–7; P. Gross – M. Torelli, Storia del'urbanistica 2, il mondo romano. Rome 1988, 127–426; R. Martin, L'urbanisme dans la Grèce antique. Paris 1974, 7–126, 153–85; Kriesis, Building (see n. 2), 61–74; E. Egli, Geschichte des Städtebaus. Stuttgart 1959, I 164–364.

[23] The street is 530 meters long and 11.5 meters wide, without its flanking colonnades. P. Schneider, Bauphasen der Arkadiane. In: 100 Jahre Österreichische Forschungen in Ephesos, Akten des Symposions, Wien 1995 (*Öst. Akad. Wiss., phil.-hist. Kl., Denkschr.* 260). Vienna 1999, 467–78, traces previous constructions to the late first century or early second, A.D.; Foss, Ephesus (see n. 13), 56–9; for examples in other cities, Ward-Perkins, Planning (see n. 4), 32; Mundell Mango, Building (see n. 2), 932f.; Claude, Stadt (see n.1), 60–3.

[24] Foss, Ephesus (see n. 13), 65–74; H. Thür, Die spätantike Bauphase der Kuretenstrasse. In: Efeso paleocristiana e bizantina – Frühchristliches Ephesos, eds. R. Pillinger – O. Kresten – F. Krinzinger – E. Russo (*Öst. Akad. Wiss., phil.-hist. Kl., Denkschr* 282 = *Archäologische Forschungen* 3). Vienna 1999, 104–19; Hueber, Ephesos (see n. 22), 264–69.

[25] Foss, Ephesus (see n. 13), 60, 63, 80–2; Foss, Urbanism (see n. 2), 305.

[26] Foss, Ephesus (see n. 13), 48–83.

[27] Foss, Ephesus (see n. 13), 74–7; F. Krinzinger, Das Hanghaus 2 als archäologische Herausforderung (with English and Turkish translations). In: F. Krinzinger (ed.), Ein Dach für Ephesos (*Österreichisches Archäologisches Institut, Sonderschriften* 34). Vienna 2000, 15–32 for an updated floor plan, description, new evidence, and a chronological summary indiciating that Hanghaus 2 was destroyed by an earthquake in 262 AD and only partially rebuilt at a higher level.

[28] Foss, Ephesus (see n. 13), 48–83 for a summary and the available chronological information, with further references and sources.

[29] Foss, Ephesus (see n. 13), 48–83, 96–9; Hueber, Ephesos (see n. 22), 260–9 stresses the damage caused by the earthquake of 358 and summarizes the changes that followed it; Thür, Kuretenstrasse, 108–19 for changes to the Embolos and adjacent features; R. Pillinger, Die christlichen Denkmäler von Ephesos. Eine Bestandsaufnahme als Rück- und Vorschau. *Mitteilungen zur Christlichen Archäologie* 2 (1996) 39–70, 39–53 for a summary of Christian objects, features and buildings in the city, with additional references.

they did not significantly change the appearance of the city center. The streets, the Lower Agora, the Theater, Stadium, and some of the baths were modified and rebuilt, but were still in use. As far as we know none of these projects was caused directly by the rise of Christianity.

Changes to the city center of Ephesos that may directly be related to increasing Christian impact are limited. To be sure, four columns probably bearing statues of the Evangelists were erected on the Arcadiane[30]. Worship at pagan temples was discontinued, and the temples were converted or used as quarries. However, the only church near the commercial heart of Ephesos was inside the converted cella of the Temple of Serapis and this could probably not be readily identified, on the exterior, as a Christian building. Even though several other churches existed within the walls[31], the Church of the Virgin, which was the Cathedral, is the only major church *building* near the center of the city, and it may have been constructed as late as the sixth century[32]. Initially it failed to produce a strong visual impact within the cityscape because it was constructed into the pre-existing walls of the temple complex of Zeus Olympus, and because it was lower than the bath building in its vicinity. Only after it was reconstructed with a large dome over the center of its nave, perhaps in the sixth century, but perhaps as late as the eighth century, would the profile of the church have risen significantly above the roofs of the surrounding buildings[33]. The other major church of Ephesos, that of Saint John, was located far beyond the city walls near the Temple of Artemis, and therefore is of no direct concern in a review of town planning inside the city during this period[34].

The reconstruction of the Church of Saint John on a domed cruciform plan, the reconstruction of the Church of the Virgin as a domed basilica, and the erection of the four pillars apparently bearing statues of the Evangelists, may each have been part of a concerted effort to upgrade the appearance of Ephesos in terms of its Christian image, an image which was apparently perceived to be inadequate. The well documented support by Justinian of the reconstruction of Saint John's, and the stylistic attribution of the four columns to the second quarter of the sixth century, imply that this concerted effort (if it was that) was undertaken during

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[30] Schneider, Arkadiane (see n. 23), 468; F. W. Deichmann, Zur spätantiken Bauplastik von Ephesos. In: Mansel'e Amargan. Ankara 1974, 549–70, 568f. with a stylistic attribution to the second quarter of the sixth century; E. Russo, La scultura a Efeso in età paleocristiana e bizantina. Primi lineamenti. In: Efeso paleocristiana e bizantina – Frühchristliches Ephesos (see. n. 24), 26–53, 28–30 with a more detailed descrption and an attribution to shops working in Ephesos during the sixth century; Jordan-Ruwe, Säulenmonument (see n. 7), 181 and note 1048 for a rejection of the commonly accepted reconstruction of the columns as supports for statues of the Evangelists.

[31] Foss, Ephesus (see n. 13), 64 *et passim*, for a summary of the temple conversions and for the other churches found at Ephesos, with further references.

[32] Neither the original basilica nor the later phases are reliably dated; Foss, Ephesus (see n. 13), 51–5 for a summary and chronological attributions; F. Knoll, Die Marienkirche in Ephesos (*Forschungen in Ephesos* IV/1). Vienna 1932, 27–62 for the excavation report; Deichmann, Bauplastik (see n. 30), 549–53, particularly 551, note 4 for a summary of previous datings and carefully considered arguments for a fourth century date; F. Fasolo, La Basilica del Concilio di Efeso. *Palladio* n.s. 5–6 (1956) 1–13, also proposes a fourth century date; S. Karwiese, Erster vorläufiger Gesamtbericht über die Wiederaufnahme der archäologischen Untersuchung der Marienkirche in Ephesos. Vienna 1989, 17–21, 27–9, 40–6 proposes a date after 474 based upon numismatic and ceramic evidence, states that the dedication of the church to the Virgin was possible only after 511, and suggests that the council of 431 met elsewhere, or possibly in the Roman stoa into which the church was later inserted; Idem, The Church of Mary and the Temple of Hadrian Olympius. In: Ephesos, Metropolis of Asia. An interdisciplinary approach to its archaeology, religion, and culture. Ed. H. Koester (=*Harvard Theological Studies* 41). Valley Forge, Penn. 1994, 311–9 proposes a date for the basilica not before 500, and states that the lateral church walls were erected as part of the south stoa of the Olympeion, which may have been constructed under Hadrian and was probably destroyed ca. 400; Idem, Die Marienkirche und das dritte ökumenische Konzil. In: Efeso paleocristiana e bizantina – Frühchristliches Ephesos (see n. 24), 81–3 dates the construction of the church to the end of the fifth century or around 500; K.'s attribution makes the apsidal solution with integrated flanking chambers more readily explainable than the earlier dates assumed by other scholars, but it does not adequately address Deichmann's observations, and the archaeological evidence may be open to other interpretations; Hueber, Ephesos (see n. 22), 261, rejects Karwiese's dating.

[33] See note 32 above; Buchwald, Saint Sophia (see n. 12), 43–5 for a summary of domed basilican churches with further references; Idem, Retrofit (see n. 12), 9–17 for a more detailed account of the reconstruction of the Church of the Virgin, and of other similar churches, as domed basilicas; Karwiese, Marienkirche, 84, proposes a date for the reconstruction as a domed basilica after the earthquake of 557.

[34] Foss, Ephesus (see n. 13), 87–93; A. Bammer, Die Kirche im Artemision von Ephesus. In: Efeso paleocristiana e bizantina – Frühchristliches Ephesos (see n. 24), 86–8 for the conversion of the temple into a church.

Justinian's reign, and perhaps that it was initiated by the Emperor and by Hypatius, the influential bishop of the city[35].

The appearance of churches within the fabric of other buildings in town centers of the Early Byzantine period is difficult to visualize. Today, probably the best impression of a small but active urban center of the period is provided by the excavations at Ostia, where many buildings are relatively well preserved, or have been reconstructed (pl. 15, fig. 2)[36]. Even though most of the structures in Ostia were constructed before our period, as we have seen at Ephesos, earlier buildings, often somewhat modified, dominated at least some town centers in the fourth, fifth, and sixth centuries. At Ostia most buildings are laid out, as at Ephesos, with walls parallel to the grid plan of the streets. The buildings are well constructed and elegantly detailed, usually lining relatively narrow streets. They rise two, three, or four floors, providing a sense of dense urbanity. Open spaces are small and few, and are usually located either near the town center or within a building complex.

Only very few well preserved Early Byzantine churches stand today, within an urban setting comparable with that of Ostia. Examples that I have recorded include Santa Maria delle Grazie in Grado (pl. 16, fig. 1) and the Cathedral of Poreć. Next to and near both of these churches stand relatively recent buildings which, however, are similar in height, scale, and density to those of Ostia. Both examples suggest that at least some, and perhaps many medium sized basilican churches could hardly be seen, in the Early Byzantine period, except from their immediate vicinity.

Strong Christian Impact on Town Planning

Strong Christian impact on the town planning of this period is usually limited to the construction of churches. An important example, for reasons noted above, is Caričin Grad, where, even though the excavated town is quite small in size, at least six churches were constructed during its short existence (pl. 19a, fig. 1)[37]. Inside the central portion of Caričin Grad an inhabitant would have been only a few steps away from the nearest church, and never more than about 150 meters. The Cathedral was by far the largest building excavated. A separately fortified acropolis at the western extension of the *decumanus* is largely taken up by the Cathedral and its adjunct facilities; in this raised position, if the fortification walls were not very high, the Cathedral must have dominated the view from many parts of the town and from the surrounding countryside. While Gerasa was much larger, it contained at least 12 churches within its walls, including a large cathedral complex at its center, and in Damascus 14 churches were relegated to Christian use when this city was occupied by the Arab forces[38].

The striking impact of Christian buildings on some towns of the period is demonstrated well by the example of Philippi: two major Christian basilicas, an octagonal, probably domed church, and the Episcopal Palace were constructed in the center of the city. They were located and designed to be approached with ease and probably to be seen well from the large, central agora near which they were built, and from the Via Egnatia, which stretched through the town center and connected it with Constantinople and the Adriatic regions[39]. These buildings appear to have been constructed as Christian "showpieces", placed on display for the inhabitants of the town and for travellers passing through.

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[35] Foss, Ephesus (see n. 13), 44f., for Justinian's support of construction at Ephesos, and for Hypatius; the reconstruction of the Church of the Virgin as a domed basilica after 557 proposed by Karwiese (note 33 above) would also be compatible with a Justinianic effort to upgrade the Christian image of the city.

[36] R. Meiggs, Roman Ostia. Oxford 1969, 111–48, 235–62, 535–53 *et passim*; Ward-Perkins, Architettura (see n. 4), 102–104; G. Becatti, Case ostiensi del tardo impero. *Boll. d'Arte*, ser. 4, 33 (1948) 102–28.

[37] N. Duval, L'architecture religieuse de Tsaritchin Grad dans le cadre de l'Illyricum au VIe siecle. In: Villes et peuplement dans l'Illyricum protobyzantine. Actes du colloque organisé par l'École Française de Rome (*Collection de l'École Française de Rome* 77). Rome 1984, 399–481; V. Popović, La signification historique de l'architecture religieuse de Tsaritchin Grad. In: XXVI Corso di Cultura sull'Arte Ravennate e Bizantina, Ravenna 1979. Ravenna 1979, 249–311; Caričin Grad I (see n. 9), 399–481; Bavant, Illyricum (see n. 9), 272–85; Mango, Architecture (see n. 2), 24; also p. 59 above.

[38] Roueché, Cities (see n. 2), 579 stresses the "sheer quantity of church buildings"; Claude, Stadt (see n. 1), 85–9; Dagron, Ville (see n. 19), 5–11 for further examples and their urban functions; for Gerasa Mango, Architecture (see n. 2), 20–3; Wharton, City (see n. 6), 64–73; B. Brenk, La cristianizzazione della citta' tardoantica. In: Actes XIV Congres internacional d' Arqueologia Classica, Tarragona 1993. Tarragona 1994, 129–35.

[39] Hattersley-Smith, Architecture (see n. 2), 67–87, with the history, patronage, sources, and other churches in the city.

The strong impact of a church on a town was at times achieved not by the size, or the central location of the building, but by its strategic siting. At Pergamum, for instance, a Christian basilica and its atrium were constructed in the center of the Lower Agora, on the flank of the Acropolis (pl. 20a, fig. 1)[40]. A large, important exterior urban space of Antiquity was thus almost obliterated by a Christian building. However, only the open courtyard of the Lower Agora was transformed, since location and size of the new building were carefully adjusted to the forms of the agora peristyle, which must have remained in tact[41]. The peristyle therefore became a frame around the church, which was approached and seen from it. The architect and his patrons may well have been aware of the "symbolic" implications of their ensemble, which seems to demonstratively reflect the transition from "old to new". However, this example from Pergamum reflects a gentle transition from paganism to Christianity, in which important elements from Antiquity were retained to enhance the new building, and to achieve a new symbiosis.

Apparently equally demonstrative, but with far more powerful impact on the center of the city was the conversion of the Temple of Aphrodite at Aphrodisias into a church probably the Cathedral (pl. 16, fig. 2)[42]. The cella walls were entirely removed and new exterior walls were constructed, making the church about twice as wide as the temple, much longer, and also much higher. The new church was one of the largest in Asia Minor. On the exterior nothing could be seen of the temple after the conversion, but inside the building the columns of the peristasis were retained, partly relocated, as the major church colonnades. Therefore, to the inhabitants of Aphrodisias it must have appeared that the famous temple in the center of their city had been swallowed up by the new building, strikingly demonstrating to them that the new religion was far mightier than the old.

In no example is the impact of a church building on the urban fabric more dramatic than in Justinian's Saint Sophia at Constantinople, the religious and, in some respects, the political focal point of the Empire[43]. It was constructed at the upper edge of the Imperial ("Great") Palace, which was laid out on the southeast flanks of the low hills upon which the city was built. (From this prime residential location the buildings and courtyards of the Palace complex, terraced down the slope toward the Marmara on the southeast, must have had splendid views out to the open sea; they must also have enjoyed the low rays of the winter sun, and have been cooled by the sea breezes in summer). From most of the city, with its hills and valleys, relatively narrow streets, and two to four storey buildings, the church could not have been seen with ease. Saint Sophia was approached from many of the commercial and residential quarters using the Mese. This broad, colonnaded main street of Constantinople was built on the ridge of low hills west of the church, employing the most level available route from the west edge of the city to its center (pl. 18, fig. 1)[44]. The church was situated off

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[40] Only the foundations were found. W. Dörpfeld, Die Arbeiten zu Pergamon 1900 – 1901. *AM* 27 (1902) 10–160, 31–5, with a date by Josef Strzygowski in the 4th century based upon stylistic criteria that must be updated; A. Conze, Stadt und Land (*Altertümer von Pergamon* 1/2). Berlin 1913, 304–54, esp. 304f.; Rheidt, Wohnstadt (see n. 20), 182–4, 226–9; also Roueché, Cities (see n. 2), 582, for other, similar examples.

[41] Rheidt, Wohnstadt (see n. 20), 182f., assumes that two sides of the peristyle were no longer standing when the church was built, because the atrium of the church lies quite near the south colonnade of the agora, which is not parallel with the church, and because the apse is too close to the east colonnade. However, the excavator (Dörpfeld, Arbeiten, 33) states that the apse came very close to the peristyle ("tritt bis dicht an die Säulen heran"), and not that it was built into it, as Rheidt believes (p. 182, "geringe Überschneidung der Apsis"). The care taken to build up to, but not into the agora colonnade implies that the peristyle was in tact, a conclusion also reached by Dörpfeld, and that the intention was to situate the building as far east as possible in order to provide more space at the west, where the main approach must have been located. Since several walls of the church complex are not parallel with each other, the divergence of wall directions between the church complex and the peristyle cannot be used to draw meaningful conclusions; the diversions may probably be explained by the lack of adequate measuring equipment or by incompetence.

[42] R. Cormack, The Temple as the Cathedral. In: Aphrodisias Papers. (*Journal of Roman Archaeology, Supplementary Series* I), eds. Ch. Roueché – K. T. Erim. London 1990, 75–88; Idem, Byzantine Aphrodisias, Changing the Symbolic Map of the City. *Proceedings of the Cambridge Philological Society* 216 (1990) 26–41; Ward-Perkins, Legacy (see n. 19), 233–40; Buchwald, Retrofit (see n. 12), 5–9, 20–2 for a somewhat more detailed analysis of the changes.

[43] R. J. Mainstone, Hagia Sophia, Architecture, Structure and Liturgy of Justinian's Great Church. New York 1988, 21, *et passim*, with a detailed account and further references; Buchwald, Saint Sophia (see n. 12), 29–48 with observations concerning the design of the building.

[44] For summaries of the Great Palace and Mese, Mango, Architecture (see n. 2), 28, Fig. 29; Idem, Constantinople, 23–36; Müller-Wiener, Bildlexikon (see n. 4), 229–37, 269–70, each with further references; A. Berger, Streets and Public Spaces in Constantinople. *DOP* 54 (2000) 161–72 for a proposed roughly orthogonal street layout; Idem, Strassen und Plätze in Konstantinopel als

the axis of the Mese, and it could probably not be seen from most portions of the street. However, a person moving towards Saint Sophia near the eastern end of the Mese, past the Milion into the Augusteion, probably had a sudden, surprising view of the church looming up to the east, over the open space of the square: it may well have been one of the most forceful urban experiences of any city, and indeed, of any period (pl. 17, fig. 1).

The dramatically rising volume of Saint Sophia may also have been striking from nearby parts of the Great Palace. However, positioned on the crest of the ridge, in a slight dip between two low hills, its appearance must have been most impressive, above all, from the sea: the church is, and probably always was, most visible, and most remarkable in the context of the city skyline, when seen from the Golden Horn to the north and northwest (pl. 8, fig. 1), from the Bosporus to the east, and from the Marmara to the south. During the Byzantine period most visitors to Constantinople probably first saw the city from the sea; from there, even at a great distance the dome of Saint Sophia must have been the most prominent landmark. Of course, it was not only the siting that made Saint Sophia a landmark from the sea; because the size of the building was at least as crucial. However, even as an extremely large standard basilica the impact from the sea would not have been impressive. It is the great, high mass of Justinian's building, and its dome, that make the view of it from the sea so striking.

THE LATER PERIOD

Medieval Byzantine cities have been described in terms of narrow, crooked, confusing, almost formless streets and houses that grew "organically", spontaneously, without either a town plan or any type of town planning[45]. However, while exceptions may exist, the available evidence does not support that interpretation[46].

The City as a Machine for Defense

Most medieval Byzantine towns were built to be "machines for defense". Frequently towns were relocated to defensible hilltop positions, at times to the ancient acropolis. Where the topography provided no defendable hilltop, as at Amorium, with great expenditure of cost and energy, the site could be artificially raised with fill[47]. The towns were surrounded by extremely thick, high defensive walls. If fortifications already existed, they were usually strengthened and often reduced in length, not only because of reductions in the number of inhabitants, but because the towns could then be defended more effectively by smaller garrisons. As many as three defensive wall systems were employed to protect a single town[48].

Fortifications are the most prominent features of medieval Byzantine towns. Only the defensive wall was seen when approaching many of them: usually no building or building part existed in the town that was as tall as the fortifications (pl. 8, fig. 2). (Two exceptions must be mentioned: first, in some towns large Ancient or Early Byzantine buildings, or their ruins, were still standing, and second, in some towns topographic features, such as a high hill or steep slope, were visible from the distance.) Since no building of the town was as massive as the town wall, inside the towns the fortifications must also have been the most imposing visual

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Schauplätze von Liturgie. In: R. Warland (ed.), Bildlichkeit und Bildorte von Liturgie. Schauplätze in Spätantike, Byzanz und Mittelalter. Wiesbaden 2002, 9–20 for the ceremonial use of streets and public spaces; H.-G. Beck, Großstadt-Probleme: Konstantinopel vom 4. – 6. Jahrhundert. In: H.-G. Beck (ed.), Studien zur Frühgeschichte Konstantinopels (*MBM* 14). Munich 1973, 1–26 for the early development of the city.

[45] For instance, Bouras, City (see n. 2), 616, 618f., 634, 638f., 644; Idem, Urban Planning in Middle and Late Byzantine Cities. *DChAE* IV 20 (1998) [1999] (Greek with English summary), 89–98, reaffirms his earlier views; Brandes, Stadt (see n. 2), 4, uses the term "regellos".

[46] Bouras, City (see n. 2), *passim*, for an overview of the evidence available when his study appeared in 1981.

[47] Ivison, Renewal (see n. 2), 14–8.

[48] Scholarship on medieval Byzantine cities generally stresses their defensive character; for an overview, C. Foss – D. Winfield, Byzantine Fortifications, an Introduction. Pretoria 1986, particularly 3–24; Angold, City (see n. 2), 4–6, 15; Foss, Urbanism (see n. 2), 304–7; Ivison, Renewal (see n. 2), 1–46; Bouras, City (see n. 2), 639; Kriesis, Building (see n. 2), 167–72; for city relocations, particularly Brandes, Städte (see n. 1), 111–9; for city reduction, Foss, Urbanism (see n. 2), 306; Bouras, City (see n. 2), 615, 642f., *et passim*; Brandes, Städte (see n. 1), 82–111; Idem, Stadt, 4; Claude, Stadt (see n.1), 39–41.

features: they probably loomed up above the buildings, on the one hand providing the inhabitants with a sense of security, but on the other hand, presenting them with a constant reminder of threat. The ever present, powerful visual impact of the fortification walls outside and inside the towns reflects directly not only the great danger of attack that made the walls necessary, but also the considerable expertise, skill, material and, above all, effort that their design and construction required. The building volume of the fortifications represents a sizable, and perhaps overwhelming portion of all building activity of the time, and thus probably also a sizable portion of economic activity.

Fortifications were not the only features of medieval Byzantine towns that were useful for defense. The narrow, crooked, confusing streets of some medieval Byzantine towns may also have been employed as defensive measures. In Mistra, for instance, often the main street continues up into the town, in the direction of the castle, while at a fork another street, of similar size and appearance, continues some distance to a dead end[49]. Because both streets are narrow and crooked, permitting no convenient overview, the enemy that breached the walls would have been confused, and if the enemy pursued both routes, its forces would have been divided and, in each street, diminished (pl. 11, fig. 1). The defenders, who knew the streets and houses well, were at an advantage. The steepness of the streets, (that could have been reduced, in spite of the topography, by following a flatter grade), was also an advantage to the defenders, since they were positioned on the higher ground. But the crooked, narrow streets flanked by steep, high facades on both sides were apparently a valuable part of the defensive system in still another manner. They created what may be termed the "Thermopylae effect," in which a small force may effectively defend the town against a more numerous enemy because the enemy can deploy only a limited number of soldiers at one time.

However, as far as we know Mistra was not a typical medieval Byzantine city. It was founded only in the 13th century, a period when the Western presence in the Peloponnese was strong, and when Italian soldiers and merchants had been prominent in many parts of the Byzantine realm for generations. It may not be coincidental that the crooked, narrow, confusing streets of Mistra remind us of those of Italian hill towns, for instance, in Tuscany and Liguria[50].

The Orthogonal Housing Pattern

We do not know whether the forms of the Mistra streets and houses were common in the medieval Byzantine period, but the evidence of excavations at Pergamum and Corinth implies that the appearance of at least some medieval Byzantine towns differed significantly from that of Mistra.

As far as we know no medieval Byzantine city, or city section, datable to the period before the 13th century has been preserved, and only rarely have medieval Byzantine towns been excavated[51]. Pergamum provides the best available example of how portions of a medieval Byzantine town may have looked, the site is very well published, and because the excavated medieval remains were at least in part retained, and may be visited. The fact that the city was important already in Antiquity and in the Early Byzantine period contributes to a better understanding of changes that took place. Nevertheless, the evidence is frustratingly incomplete: Only a limited portion of the medieval city was excavated; the remains usually stand only one to two meters

[49] For an overview, S. Sinos, Mistras. *RbK* 6 (1999) 380–518, including history, layout, and monuments; M. Chatzidakis, Mistra. Athens 1981, 10–32, 119–23; Bouras, City (see n. 2), 631f.; for a richly illustrated account of the private houses, A. K. Orlandos, Les maisons paleologuiennes de Mistra, in: Art et societè à Byzance sous les Paleologues, Actes du Colloque. Études Byzantines 1968. Venice 1971, 75–82; for an analysis of the dwellings, G. Velenis, Wohnviertel und Wohnhausbau in den byzantinischen Städten, in: Wohnungsbau im Altertum. Diskussionen zur archäologischen Bauforschung 3 (1978) 227–36, 229–35; for a summary of medieval Byzantine houses in Greece, Ch. Bouras, Katoikies kai oikismoi ste byzantine Ellada, in: Oikismoi sten Hellada. Athens 1974, 30–52.

[50] The Italian presence is generally recognized in accounts of Byzantine history. See, for instance, Angold, City (see n. 2), 24–8, 32–7; Brandes, Stadt (see n. 2), 5f., for Italian political and commercial influence on Byzantine cities since the eleventh century, with a growing impact in the thirteenth; Bouras, City (see n. 2), emphasizes that Mistra is a special case among Byzantine cities; R. L. Scranton, Medieval Architecture in the Central Area of Corinth (*Corinth* XVI). Princeton, N. J. 1957**,** 136, notes the great difference in urban planning evident at Mistra and Corinth, and speculates that around the 13th century new trends, "whatever their origin", became dominant.

[51] Bouras, City (see n. 2), 612–7 deplores the lack of evidence and underscores the need for further excavation; *ibidem*, *passim*, reviews the evidence available when the study appeared.

above ground; many medieval walls were removed in the 19th and in the early 20th centuries before they were recorded.

At Pergamum most of the Late Antique and Early Byzantine building activity was concentrated in the plain south of the acropolis. After the city was destroyed by the Arab forces under Maslama in 715–16, numismatic evidence is lacking for a century, but then building activity apparently resumed on the Ancient acropolis, spreading slowly from the citadel towards the southeast down the slopes. Except where the slopes are too steep, medieval buildings were constructed in the entire rather large area within the fortifications; even so, the size of the medieval city on the acropolis was less than one tenth the size of the Late Antique city in the plains (pls. 20b, fig. 1; 21a, fig. 1; pl. 8, fig. 3). Most of the buildings that were excavated have been attributed to the period from the 11th century to the 14th, but a number of Byzantine coins were found dating from as early as the ninth century, implying that the site was already occupied then[52].

The medieval city was fortified by three distinctive walls: one that defended the citadel at the top of the acropolis, a second that defended the slope southeast of the citadel, and a third, much longer wall, that defended the lower slopes to the southeast. Since, because of the exceedingly steep acropolis slopes on the south, north and west, the medieval city could be approached with ease only from the southeast, any invader was forced to breach three fortifications before entering the citadel. Some of the Pergamene fortifications are attributed to earlier eras, but others are medieval or were strengthened during the medieval period[53].

The main street of medieval Pergamum has the same location, layout and form as the main street of the Ancient city. It is neither narrow nor crooked, but rather, continues up the slope in gentle curves that take advantage of the topography (pl. 21a, fig. 1). One steep, narrow, crooked side street was found, but most secondary streets are short, relatively straight, and lead to dead ends: they provided access to houses inside the block[54]. Some of the dead end access streets have sharp right angle corners that may have had a military function, because defending soldiers situated behind the corner wall would have had the advantage of surprize over the advancing enemy.

No large medieval exterior space was found at Pergamum. At Corinth, however, among medieval streets and houses a large square was excavated that overlay an agora of Ancient Corinth[55]. Although the medieval square at Corinth was irregularly shaped and not very similar to the earlier one, the relationship between the earlier and later squares seems to be underscored by the fact that one of the buildings on the medieval square was constructed with a portico, apparently a faint echo of a peristyle. Also, some medieval houses on the main street of Corinth were built with porches echoing colonnades. The disposition of both the medieval

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[52] Care must be exercized when reading the excavation reports, because the term ‟Late Byzantine” is misleadingly used to designate all medieval phases. For the Late Antique and Early Byzantine periods, U. Wulf, Der Stadtplan von Pergamon. *IstMitt* 44 (1994) 135–75, 168–75, *et passim*; Rheidt, Wohnstadt (see n. 20), 199–223 for a convenient overview, but without the results of more recent excavations; *ibidem*, 220f. for a chronological summary based upon coin finds, that proposes a beginning of medieval occupation in the tenth century and an interruption from the late eleventh into the twelfth; Idem, The urban development of Pergamon. In: Parrish (see n. 2), 43–56 with a strong emphasis on planning before Christianity became prominent; Rheidt, Wohnstadt (see n. 20), 196–202, 246–51 for summaries of the history and the building activity from the Late Antique until the Turkish periods; *ibidem*, 198 assumes that work on the housing areas on the acropolis south slopes began in the second half of the 12th century; *ibidem*, 201 and W. Radt, Pergamon, Vorbericht über die Kampagne 1987. *Archäologischer Anzeiger* (1988) 461–6, 464–6 for three phases: 1) the earliest and major phase, 12th –13th centuries; 2) from the early 13th century until the earthquake of 1296; 3) the first half of the 14th century; K. Rheidt, Byzantinische Wohnhäuser des 11. bis 14. Jahrhunderts in Pergamon. *DOP* 44 (1990) 195–204, 197f., attributes the beginning of work on the housing areas to the end of the 11th century or the early 12th and relates it to the Seljuk invasions; Idem, Pergamon – Wohnhäuser und Siedlungsentwicklung einer byzantinischen Provinzstadt in Westkleinasien. In: Çağlar boyunca anadolu'da yerleşim ve konut uluslararasi sempozyumu, 5–7 Harziran 1996 (International Symposium on Settlement and Housing in Anatolia Through the Ages). Istanbul 1999, 347–58 for a more recent, brief and convenient overview; Conze, Stadt (see n. 40), 329–31 for the Byzantine coins found during the early excavation campaigns; see also C. Foss, Archaeology and the 'Twenty Cities' of Byzantine Asia. *AJA* 81 (1977) 469–86, 479–81.

[53] M. Klinkott, Die Stadtmauern 1, Die byzantinischen Befestigungsanlagen von Pergamon mit ihrer Wehr- und Baugeschichte *(Altertümer von Pergamon* XVI/1). Berlin–New York 2001, particularly 13–103, figs. 6–10; Conze, Stadt (see n. 40), 305–8.

[54] W. Radt, Pergamon, Vorbericht über die Kampagne 1977. *Archäologischer Anzeiger* (1978) 407–17, 409, fig. 1, also for medieval repairs of the Ancient street; Rheidt, Wohnstadt (see n. 20), 202–4.

[55] Scranton, Corinth (see n. 50), 53, 124f., 133–6; Hattersley-Smith, Architecture (see n. 2), 212–38, for a convenient summary of Christian building activity at Corinth; also H. S. Robinson, The Urban Development of Ancient Corinth. Athens 1965, 31f. for a very abbreviated, somewhat different account.

square in Corinth, and the medieval street at Pergamum, over predecessors of Antiquity may thus not be coincidental: rather, both may reflect a conscious effort to establish continuity with the Ancient past.

The main street of medieval Pergamum was lined with shops that usually opened directly onto the street, and that often consisted of one or two rooms (pl. 21b, fig. 1). Many appear to have been used for the production as well as for the sale of goods. The scale and disposition of these small shops, lining the main street, is reminiscent of similar shops that can be observed at Ephesos. However, they are also strikingly similar to shops at Pergamum, attributed to the Roman and Hellenistic phases, that lined the same street at a much lower level[56].

Like those of Constantinople, the southeast slopes of the acropolis at Pergamum are ideally suited for residential functions. The site was terraced down to the south and east, providing most houses with winter sun and a splendid view of the plain and mountains to the south. Nearly all of the houses were constructed with rectangular rooms that opened directly onto rectangular, often quite long courtyards (pls. 21a–b, fig. 1; pl. 9, fig. 1). While the smaller houses had only one or two rooms and were modest in size, the larger houses had up to eight rooms at ground level, some rooms measuring up to ten meters in length. Several houses were sizeable, with lengths measuring up to 30 meters and areas up to 500 square meters (courtyards included). Because stairs were only rarely found, the excavators believe that most houses had only a single story, but stairs and upper floors may have been constructed of wood[57].

Most houses are laid out with little or no space between them, and their walls are approximately parallel or perpendicular with the main street; thus, they form sizable areas in which all of the rooms and courtyards stand almost parallel with each other (pls. 21a–b, fig. 1; pl. 9, fig. 1)[58]. This roughly orthogonal pattern is not continuous on the entire site, because the main street winds through the city in large arcs, and since each residential section is laid out approximately parallel with the street, it is not parallel with other residential sections. Nevertheless, occasionally walls are aligned over long distances, up to about 40 meters, and some parts of these long walls belong to different houses; therefore, they reinforce the continuity of the housing pattern. The aligned walls probably should not be explained by aesthetic considerations, because their continuity was not experienced from inside the different houses. Rather, since some portions of aligned walls were constructed during different periods, the alignments suggest the application of planning principles that were established before the houses were constructed, such as building regulations or property rights[59]. In medieval Pergamum at least some urban growth was achieved, not by the spontaneous addition of new houses, but by the subdivision of units within the already established orthogonal residential scheme[60].

The observations at Pergamum concerning orthogonal housing patterns and aligned walls are corroborated by the evidence at Corinth, where a similar housing pattern continued, interrupted only by rather irregular streets, for at least 180 meters, and the wall alignments were up to 45 meters long[61].

At Pergamum the orthogonal housing pattern was difficult to achieve and is not rigidly applied, probably not only because of the limitations of medieval Byzantine construction technology, but also, and primarily,

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[56] W. Radt, Pergamon, Vorbericht über die Kampagne 1978. *Archäologischer Anzeiger* (1979) 309–16, 309, fig. 1–2, points out that gaps caused by side streets and entryways differentiate the medieval from the Hellenistic and Roman street fronts; however, the similarities are striking and greater than the differences; for shops and walls of Antiquity that were occasionally reused in the medieval phase, Idem, Pergamon, Vorbericht über die Kampagne 1979. *Archäologischer Anzeiger* (1980) 400–5, fig. 1; W. Radt, Pergamon, Vorbericht über die Kampagne 1990. *Archäologischer Anzeiger* (1991) 398–411, fig. 2; also Rheidt, Wohnstadt (see n. 20), 209–12; Scranton, Corinth (see n. 50), 123f., for similar features.

[57] All of the excavation reports are concerned with the functions of individual rooms and houses, which include dwellings, work shops, stables, cisterns, and storage areas; for summaries of the housing evidence, Radt, Pergamon (see n. 54), 309; Rheidt, Wohnhäuser (see n. 52), *passim*; Rheidt, Wohnstadt (see n. 20), 205–9, states that the larger units usually opened towards the south, and that the view from a house and its courtyard was never later blocked by construction.

[58] Radt, Pergamon (see n. 54), 309.

[59] Velenis, Wohnhausbau (see n. 49), 227–9, with further references, for a fourteenth century Byzantine building code that undoubtedly had earlier, in part medieval antecedents; H. Vetters, Das Baugesetz Zenos für Konstantinopel. *IstMitt* 39 (1989) 575–84 for a fifth century building code that has at least some similar regulations as the fourteenth century code.

[60] Radt, Pergamon (see n. 54), 309, 311–2, states that the orthogonal housing pattern must originally have been carefully planned, and notes the later internal additions.

[61] Scranton, Corinth (see n. 50), 52–83, 128–36, plans VI–VII, observes (52) "the preserved complex represents substantially one plan"; however, Bouras, City (see n. 2), 617–9, describes the evidence as "the absence of any plan, with settlement developing in a spontaneous and dynamic fashion"; see also Kriesis, Building (see n. 2), 199.

because of the irregular, steep grade: grade variations of up to three meters exist in some of the long courtyards (pl. 9, fig. 1). The rugged topography made the long alignment of walls, and the continuity of the rectilinear building layouts difficult to achieve[62]. Thus careful, predetermined orthogonal planning was applied in medieval Pergamum in spite of the topography. An "organic", spontaneous disposition of buildings at Pergamum, that would have required less effort to realize, would have avoided long alignments and continuous orthogonal patterns; "organic planning" (or a lack of planning) would have led to loosely organized building forms, primarily with curved features that followed the contour lines.

The orthogonal housing patterns and the courtyard house schemes at Pergamum and Corinth remind of residential areas of Ephesos, and of many other cities, during the Late Antique and Early Byzantine periods. To be sure, the Late Antique houses of Ephesos are more compact and more sophisticated in design, and the stringent grid plan of Ephesian streets does not occur in the two medieval cities. But in Late Antique cities, the orthogonal housing patterns are at times also adjusted to the local topography and to other features[63]. Thus, those responsible for constructing medieval Pergamum apparently chose town planning features that reflected those of earlier periods, even though their application was more difficult, requiring greater effort, than the creation of more loosely planned, or unplanned options.

Since Pergamum was apparently abandoned for an extended period, the town planning strategies used there probably do not reflect an ongoing tradition in the city[64]. To be sure, walls and architectural components of Antiquity, usually in a fragmentary, ruinous state of preservation, were occasionally reused at Pergamum, and also at Corinth, affirming that some earlier building layouts were known during the medieval period[65]. In each city the first medieval builders may, perhaps, have used the remains of Antiquity as points of departure for their urban planning. However, at least at Pergamum the use of ancient remnants was quite limited, and in most locations the earlier walls were either ignored or removed. Also, the building layouts of Antiquity in Pergamum and Corinth are quite different from each other, as are the topographic conditions. Therefore, if the medieval builders had used only the pre-existing features of each site as points of departure, we would expect the character of the planning at Pergamum and Corinth to differ more significantly.

Rather, the consistent use of similar orthogonal housing patterns both at Pergamum and at Corinth suggests that these town planning strategies reflect a generally applied approach to the reconstruction of at least some medieval Byzantine cities; an approach that appears to be based upon a conscious revival of earlier forms[66]. The medieval revival of urban forms from the Late Antique and Early Byzantine periods should not surprize us, because similar, parallel revivals are well known in the visual arts and in literature. As in art and literature, the earlier models for medieval Byzantine town planning are easily recognized, just as the differences are equally evident. However, apparently in contrast to the revivals in art and literature, the rather consistent revival of earlier town planning features in two cities that are relatively remote from each other suggests that the revival in town planning was devised, dispersed, and controlled by a central authority, one that was able

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[62] Radt, Pergamon (see n. 54), 309.

[63] See p. 61–2 and notes 21, 22, and 27 above for the streets and residential areas of Ephesos and for comparable examples; both at Pergamum and Ephesos the orthogonal housing patterns of Antiquity were adjusted occasionally to compensate for the topography and other features; for housing of Antiquity and Late Antiquity, Martin, L'urbanisme (see n. 22), 221–52; J.-P. Sodini, L'habitat urbain en Grèce a la veille des invasions, in: Villes et peuplement dans l'Illyricum protobyzantine. Actes du colloque organisé par l'École Française de Rome (*Collection de l'École Française de Rome* 77). Rome 1984, 341–97; also J. Lassus, Sur les maisons d'Antioche. In: Apamée de Syrie: bilan des recherches archéologiques 1973 – 1979. Aspects de l'architecture domestique d'Apamée; actes du colloque tenu à Bruxelles, éd. par J. Balty (*Fouilles d'Apamée de Syrie, Miscellanea* 13). Brussels 1984, 361–93, with many houses of the 4th to 6th century period at Antioch that resemble, in their floor plans, those of Pergamum; J. Ch. Balty, Notes sur l'habitat romain, byzantin et arabe d'Apamée, rapport de synthese. In*: Op. cit.*, 471–501.

[64] Hattersley-Smith, Architecture (see n. 2), 221–8 summarizes the limited evidence for continuity at Corinth; Scranton, Corinth (see n. 50), 33 for a summary of building activity during the period 610–802 that implies limited continuity in spite of "profound desuetude".

[65] For the occasional reuse, and more frequent removal of walls and components of Antiquity, see Radt, Pergamon (see n. 54), 416, fig. 1; Idem, Pergamon. Bericht über die Kampagne 1978. *Archäologischer Anzeiger* 1980, fig. 1; Scranton, Corinth (see n. 50), 48f., 82f., 123, plan VI; for further examples in other cities, including the continuity of street patterns, Bouras, City (see n. 2), 639–41; for primarily documentary evidence of continuity, Brandes, Städte (see n. 1), 124–31.

[66] Angold, City (see n. 2), 18–24 for comparisons, including parallels, between the economic and political condition of Byzantine cities of the 11th and 12th centuries and those of the Early Byzantine period; Scranton, Corinth (see n. 50), 134–6 considers the possible origins of the urban forms at Corinth.

to exert influence and to expend resources. It is only reasonable to assume that such a central authority was closely related to the Imperial throne in the capital. The intention of such a centrally orchestrated program may not only have been the reconstruction of Byzantine cities, but also the implication of a historic continuity which did not, at least in many cities, actually exist[67].

The Church Building in the Provincial Medieval Town

Churches were the only medieval public buildings that were found in the excavations at Pergamum. At least eight small medieval churches or chapels were excavated, in some residential areas only about 100 meters apart[68]. The two largest were located on the theater terrace and in the citadel; since neither of them is preserved, and since the urban context of neither was recorded, they will not concern us here[69]. The other churches are very small single cell structures[70] except one, that was excavated in 1989 on the lower slopes of the city (pl. 9, fig. 2). This church is located about 10 meters south of the main street, and may originally have been accessible from it using a short side street. It has been attributed to the late 12th century or the early 13th, and may have belonged to a monastery, although its use as a parish church should not be excluded[71]. The fragmentary remaining walls, columns and piers make a reconstruction as an abbreviated inscribed cross church probable, the outer dimensions of the building measuring only about 6 x 10 meters (including the apse but not the ancillary facilities)[72].

None of the excavated medieval churches at Pergamum is located directly on the main street, or in another location which would make it a focal point within the city, or within the neighborhood in which it stands. The church found in 1989 is hardly larger than some of the nearby shops and rooms; in its location away from the main street, separated from it by shops and houses, it was probably insignificant in the fabric of the

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[67] Ivison, Renewal (see n. 2), 1–46, stresses imperial support of medieval Byzantine cities and provides numerous examples of state sponsored projects between 727 and 1025, most of which are fortifications; *ibidem*, 18–27, for medieval Byzantine cities as products of imperial renewal and the revival of Antiquity.

[68] W. Radt, Pergamon, Vorbericht über die Kampagne 1989. *Archäologischer Anzeiger* (1991) 398–424, 399; Rheidt, Wohnstadt (see n. 20), 226–33.

[69] Conze, Stadt (see n. 40), 308–20; Rheidt, Wohnstadt (see n. 20), 155–9, 176–82, 230f. Both churches, and particularly that at the theater, were probably prominent in the view of the acropolis from the plain to the south, but not from other locations inside the town.

[70] Radt, Pergamon (see n. 54), 312–5 for a chapel that appears to have no direct street access and may have been the catholicon of a monastery or a private house chapel; Idem, Pergamon. Vorbericht (see n. 65), 405, fig. 2, for a large, very late, probably monastic complex with little or no direct relationship to the earlier structures on the same site; Idem, Pergamon, Vorbericht über die Kampagne 1981. *Archäologischer Anzeiger* (1982) 539–43, 541, for a late chapel on the site of a much larger and earlier, destroyed, basilica; for summaries, Idem, Pergamon 1989 (see. n. 68), 399; Rheidt, Wohnstadt (see n. 20), 231f.

[71] Radt, Pergamon 1989 (see. n. 68), 399–410, for a description and 406f., for the proposed date, based upon the approximate date of a nearby lime kiln that appears to have been used in its construction; *ibidem*, 404, for the entrance, which was originally located at the west and was later relocated to the south side of the church; R. assumes that a square preceded the side street west of the church, *ibidem*, 399, 407–10; Idem, Pergamon. Vorbericht über die Kampagne 1990. *Archäologischer Anzeiger* 1991, 402, for the proposal that it was a catholicon based upon the rooms and building to the east, which are interpreted as monastic; however, since the entrance to the church was originally from the west, the church may originally not have been related to these buildings, and they could have been non-monastic dwellings and service buildings; possibly the building east of the church was transformed into a monastery when the church portal was relocated; *ibidem*, 402, states that the cemetary in which the church stands was reached by broad steps from the main street, implying that the graves were accessible to the inhabitants and were therefore not necessarily those of monks; it is unclear whether the cemetary access is contemporary with the original entrance of the church, or whether it was constructed later, perhaps when the church portal was relocated from the west to the south.

[72] The inscribed cross scheme is abbreviated in that the bema bay is the eastern cross arm. Radt, Pergamon 1989 (see. n. 68), 403f., fig. 5, identifies the building as an inscribed cross church, but his reconstruction drawing contains inaccuracies. The western wall pier of the south facade is shown in the drawing with only a single, rather than with two reentrant angles at the west, and the wall pier at each end of the west facade is not shown; two recessed arcades that flanked the main door therefore probably articulated the west facade, rather than only one arcade, that would have framed the door. The reconstruction drawing, fig. 5, is seriously flawed. The vaulting solution of inscribed cross churches is well known and usually leaves only details to the imagination. The diaphragm arches (except next to the corner bays), the shed roof ceilings, and the lower drum of the reconstruction drawing are erroneous. Over the four cross arms there would have been barrel vaults with almost equal spans and heights, emanating from the central bay; these barrel vaults (and not the piers and columns) directly supported the pendentives, which in turn supported the drum and dome; the corner bays were probably vaulted with domical or, more likely, barrel vaults.

medieval town. At most its small dome, with an outer diameter of only about 2.50 meters, would have been visible over the roofs of the nearby buildings. The situation seems to have been similar in medieval Corinth: although large, early churches may have remained in use, only two churches were found in the excavated portion of the medieval town. The Bema Church and the Church of Saint John Theologos, probably both monastic edifices, were packed into the domestic and commercial quarters, and were reached only from narrow side streets. There is no indication that they were domed, or that they were readily visible from nearby streets except in their immediate vicinity[73].

The rather limited impact of most medieval Byzantine churches on the urban fabric, not only at Pergamum and Corinth, but in the entire Empire, is best illustrated by a comparison with examples from the East and West. Each town or village in the Islamic realms contained at least one mosque accompanied by a minaret. The minaret was a requirement because of its acoustic advantages for the call to prayer. However, it also provided a vertical accent in the townscape which immediately signalled the location of the most important building, the mosque. No equivalent feature exists in Byzantine towns. Even more striking is the contrast between the medieval churches of Byzantine towns and those built about the same time in Western Europe. A view of Auxerre on the Yonne in Burgundy, for instance, shows that the Gothic Cathedral of Saint Stephen, with its enormous height and massive volume, towered over and completely dominated the townscape (pl. 10, fig. 1). Nevertheless, the comparison with Pergamum is apt, because the size of both towns, inside the medieval fortifications, is almost the same.

The modest scale of all medieval Byzantine churches has often been stressed. In a few towns, however, such as Ephesos and Thessalonica, large churches of the Early Byzantine period continued to dominate the townscape during the medieval period. Some exceptional medieval Byzantine churches that had a significant impact upon their urban contexts must also be mentioned. The most striking is the Church of Saint Sophia at Monemvasia, probably of the 12th century, which is perched at the edge of a high seaside cliff and is most impressive from the sea (pl. 11, fig. 2)[74]. Another example is the Church of the Virgin *Chalkeon* at Thessalonica, built in 1028. The tall, double storey drum of its dome in particular probably made the building stand out in the city[75]. Most examples of medieval Byzantine urban churches that were particularly prominent were constructed somewhat later. The *Paregoretissa*, for instance, is situated on high ground in a prominent location at Arta. It was meant to be seen from afar, and was reconstructed in the 1290's with a massive volume and rich roof profile[76]. Other churches of the following period that may also have been prominent within their urban contexts, due to their size, the massing of their domes, and their siting, include, (but are certainly not limited to), the churches of the *Hodegetria* and of the *Pantanassa* at Mistra, and the churches of Saint Catherine and of the Holy Apostles at Thessalonica[77].

Possibly each of these buildings was designed, at least in part, under the influence of the more imposing church buildings of the West. In the twelfth century Monemvasia was one of the ports that was frequented by Italian merchants. The Church of the *Chalkeon* was founded by Christophoros, the governor of Byzantine southern Italy. With the reconstruction of the *Paregoretissa* the Epirote despot Nikephoros I Komnenodoukas apparently wished to underline his own importance, his Byzantine imperial heritage, and his ties to Western ruling houses. In the late 13th, 14th and early 15th centuries architects and patrons of Mistra, Thessalonica and other cities had abundant opportunity to visit, or at least to inform themselves about churches of the West, either in the Peloponnese, in southern Italy, or elsewhere. Only a general knowledge of the size, massing and siting, and not a detailed understanding or appreciation of Western buildings would have been required.

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[73] Scranton, Corinth (see n. 50), 54f., 62–6, 126, plans VI–VII; Hattersley-Smith (see n. 2), Architecture, 231–3, for a summary that includes other medieval churches in the city.

[74] H. Kalligas, Byzantine Monemvasia. The Sources. Monemvasia 1990, 61, 168f., fig. 12; R. Klaus – U. Steinmüller, Monemvasia. Athens 1994, 78–82; M. Panayotidi, Les églises de Géraki et de Monemvasie. In: XXII Corso di Cultura sull'Arte Ravennate e Bizantina, Ravenna 1975. Ravenna 1975, 335–55, 349–55.

[75] K. Papadopoulos, Die Wandmalereien des XI. Jahrhunderts in der Kirche Panagia ton Chalkeon in Thessaloniki (*BV* 2). Graz–Cologne 1966, 11–5; Mango, Architecture (see n. 2), 113–5; for the urban context and dating sources, Hattersley-Smith, Architecture (see n. 2), 192f.

[76] L. Theis, Die Architektur der Kirche der Panagia Parēgorētissa in Arta, Epirus. Amsterdam 1991, *passim*; Buchwald, Retrofit (see n. 12), VIII 17–9.

[77] Sinos, Mistras (see n. 49), 424–30, 437–41; Chatzidakis, Mistra (see n. 49), 47–67, 95–8; A. Papayiannopoulos, Baudenkmäler Thessalonikis. Thessalonica 1963, 68–75; Idem, Istoria tes Thessalonikes. Thessalonica (n.d.), 323–6.

But from the 9th to the 15th centuries most medieval Byzantine churches had only a limited impact upon the urban fabric into which they were constructed[78]. Usually in most towns only the domes of the medieval churches, which, like the church buildings, were modest in size, probably would have been seen over the rooftops (pl. 10, fig. 2). At street level even the domes probably were visible only from certain limited vantage points since, as the excavations at Pergamum and Corinth suggest, no attempt was usually made to construct churches on main streets or in prominent locations.

The striking difference in effect from contemporary Western examples has many possible explanations involving, for instance, great differences in political, economic and religious power structures. However, I believe that one of the most important reasons for the relative insignificance of medieval Byzantine churches in the townscapes is that the churches were designed to provide a direct, personal relationship between the worshipper, whether a peasant, monk or emperor, and the holy images applied to the vaults of the church buildings (pl. 12, fig. 1). That direct, personal relationship may be achieved in a small, intimately scaled church, but not in a huge, monumental building. The domes that were usually located at the centers of the churches were decorated on their interiors with the holiest images of the Byzantine religious hierarchy, turning the domes and their decorations into iconic and symbolic statements concerning the fundamental dogmas and beliefs of medieval Byzantine civilization[79]. It is therefore not surprising, that the domes signalled the church locations in the townscape.

However, these observations fail to explain why medieval churches in Byzantine towns frequently were not sited in prominent locations.

CONCLUSION

The title of this study poses the question, does Byzantine town planning exist? Many readers already will have found answers of their own, and this conclusion is, therefore, perhaps unnecessary. Nevertheless, it may be helpful to point out that the answers, (and there are several), to the question depend in large part upon the definition of *Byzantine town planning.* For instance, if we define *town planning* in a narrow sense, as the adherence to rather rigid town planning schemes such as the Hippodamian system or the provision of a *cardus* and a *decumanus*, then we may readily conclude that town planning existed in the Byzantine Empire in the early period, but that during the Middle Ages it probably did not. On the other hand, if we employ a more open-ended definition, in which town planning is understood, as it is usually today, as the thoughtful arrangement of urban features with respect to topography, preexisting site conditions, functional and legal considerations, and less tangible factors such as economic, political, aesthetic and other goals, then we will probably conclude that town planning also existed in the Byzantine Middle Ages.

Indeed, today in many older cities worldwide town planning involves, among other things, the preservation or the re-cycling of historic features, an aspect of town planning which must have been of particular concern in Byzantine cities throughout their history. The re-cycling of the Parthenon, (the most prominent urban feature of Byzantine Athens), is one good example, and the adherence, during the medieval period, to the path of the Ancient main street of Pergamum, is another.

But what is the answer to our question if we broaden our perspective and emphasize *Byzantine* town planning? If Byzantine town planning is understood to be town planning as it was practised in the Byzantine Empire, then the examples I have presented demonstrate that town planning, in the broader sense, probably existed throughout Byzantine history, even though our understanding of it is currently sketchy at best. However, we may also define *Byzantine* town planning as town planning which is typical of, or unique to the cities and towns of the Empire. Now the problem becomes more complex, and more difficult to address. On the one hand, each town plan, wherever and whenever it was created, is unique, since no other town will have

[78] Bouras, City (see n. 2), 646 for an assessment of the urban impact of churches in medieval Byzantine towns with a different interpretation.

[79] H. Buchwald, The Geometry of Middle Byzantine Churches and Some Possible Implications. *JÖB* 42 (1992) 293–321, particularly 309–12; O. Demus, Byzantine Mosaic Decoration. London 1948, particularly 5–29; A. Kazhdan, State, Feudal and Private Economy in Byzantium. *DOP* 47 (1993) 86–100, 87f. observes that "the Western church stressed.the church's institutional administration of salvation ('no salvation outside the church'), whereas the Byzantine church put the emphasis on the individual's deeds and thoughts".

precisely the same features. In that sense each Byzantine town planning situation is typical and unique to the town for which it was created, and thus to Byzantine civilization. But on the other hand, almost every town plan is based at least in part upon certain preconceptions, such as the Hippodamian grid, local building codes, or the rules of urban planning prescribed by CIAM in the 1930's. As observed in our examples, probably the most prominent preconception during the planning of Byzantine towns of all periods was the preoccupation with urban design schemes and features from the Roman and Hellenic past. That should not surprise us, since similar preoccupations are evident in Byzantine art and literature. But if Byzantine town planning involves primarily schemes borrowed from the past, is it truly *Byzantine*?

Are there not also characteristics of Byzantine town planning which *originated* in the Byzantine Empire, and which, therefore, may be termed *specifically Byzantine*? I suggest that the conception of the dome of Saint Sophia in Constantinople as a dramatic urban focal point provides at least one example of such specifically Byzantine town planning: the conception and design of Saint Sophia thus, had not only a structural, but also an urban design component. Whether the dome as an urban focal point originated with Saint Sophia, or with another Byzantine church will not concern us here; comparisons with earlier domes in an urban setting require further study. However, a comparison with Hadrian's Pantheon in Rome suggests that in this respect Imperial Rome did not provide a model for Byzantine planners, since the dome of the Pantheon is suppressed on the exterior, and was not prominent in its urban setting. While *medieval* examples which also demonstrate originality in Byzantine urban planning also may exist, additional studies and above all, careful excavation of medieval Byzantine sites such as, for instance, Amorium, will be required before we may fully evaluate the features of medieval Byzantine towns.