

Julian of Ascalon's Treatise of Construction and Design Rules from Sixth-Century Palestine

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This is a study of a treatise by Julian of Ascalon, an architect and a native of the Byzantine Palestinian coastal city of Ascalon and a contemporary of the Byzantine emperor Justinian I (A.D. 483-565; reigned 527-565). There is some consensus that the treatise was written during the years 531-533, when the codification of Roman law that resulted in the influential *Corpus Juris Civilis* was undertaken upon Justinian's order.

Julian's treatise is a compilation of construction and design rules that address the prevention of nuisances and potential damages to proximate neighbors resulting from building activities associated with change and growth in the built environment. A framework of five categories was developed to analyze the technical aspects of the treatise: land use, views, houses and condominiums, drainage, and planting. The influence of the treatise endured intermittently for almost 1400 years, first in Constantinople, then in the eastern territories of the Byzantine empire, and later in some Slavic countries; in Greece it survived well into the twentieth century.

This research project relied on sources in a number of languages: Greek, Russian, French, Italian, German, English, and Hebrew. It is the first study to analyze the rationale and technical aspects of the prescriptions and design rules in Julian's important work, and the first comprehensive presentation of the treatise in the English language. The results of this research was published in the *Journal of the Society of Architectural Historians*, Volume 60, Number 1/ March 2001, pages 4-25.

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Ascalon was a city on the Mediterranean coast of Palestine, 16 km north of Gaza. Its history extends from about 1370 B.C. to A.D. 1270, a continuous presence of over 2,600 years.¹ King Herod, who reigned between 37 and 4 B.C., adorned the city with fine public buildings, some of which have been excavated.² During the Byzantine period, Palestine was divided into three provinces (Figure 1). Ascalon was within the province named Palestina Prima, whose capital was Caesarea. A Byzantine consular governed each province until A.D. 536, when Emperor Justinian I promoted the governor at Caesarea to proconsul and gave him supervisory authority over the other two consulars.³ In the fourth century, Ascalon became a bishopric. According to the acts of the Council of Constantinople in 536, the city had a bishop, an indication that at the time a sizable part of the population was Christian.

From the fourth to the sixth century A.D., building activity flourished in Syria and Palestine.⁴ Economic growth was robust in the fifth century, due to the relative peace enjoyed by the eastern provinces of the Byzantine Empire.⁵ A recent study by Georges Tate shows that in northern Syria there was constant growth between A.D. 270 and 550; it increased after 320, became more vigorous from 410 to 480, and reached a peak between 450 and 480; this was followed by a reduction from 480 to 550. Tate suggests that the pattern was basically the same throughout the region, with local variations.⁶

The export of olive products provided wealth to landowners, who also collected taxes and administered the

surrounding rural areas.⁷ In the case of Ascalon and nearby Gaza, the export of wine was also a chief economic activity.⁸ Landowners lived in the cities to take part in social and political activities, and their presence was an important component of city life. According to A.H.M. Jones, "The city was a social phenomenon, the result of the predilection of the wealthier classes for the amenities of urban life."⁹ In Ascalon, however, there was a tendency by the elites, notably the landowners, to move to newly built provincial estates nearby. In order to discourage the flight of the urban aristocracy, the local government authority enacted laws designed to maintain and enhance the aesthetic beauty of the city, and for controlling change that could be detrimental.¹⁰ The situation in Ascalon, together with the revival and codification of Roman law by the emperor in Constantinople, is the context for understanding the purpose of Julian's treatise. The excessively prescriptive nature of its stipulations should be viewed in light of the centralized structure of Byzantine government in the region.¹¹

The period from the late fifth to the mid-sixth century, covering the reigns of the emperors Zeno (A.D. 474–491), Anastasius I (A.D. 491–518), Justin I (A.D. 518–527), and Justinian I (A.D. 527–565), is important for the study of the treatise. For example, Zeno's laws, particularly those related to the preservation of mountain views and the construction of new balconies facing the public realm, influenced related stipulations in Julian's work.

Ascalon was well known for its fine buildings and urban

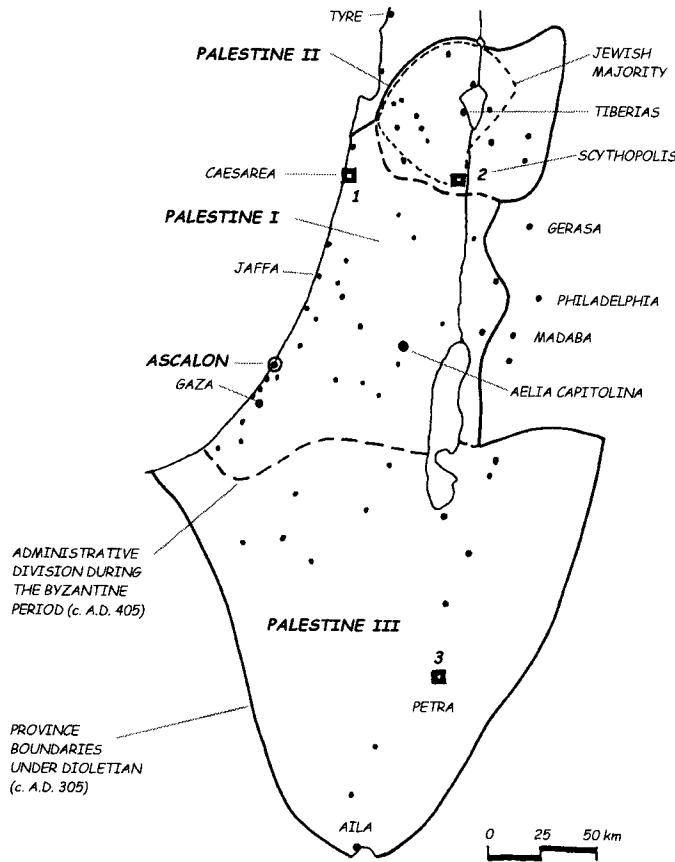


Figure 1 The province of Palestine was divided into three administrative sectors during the Byzantine period. Ascalon is in Palestine I, which had Caesarea as its capital.

Figure 2 Plan of the site of Ascalon showing its general contours; the hatched rectangle represents the footprint of buildings and their setbacks (15 x 45 m) as discussed in case Hex. 13; the visual corridors (sight lines) show what constitutes a direct view (D) and indirect views (I), as explained in Hex. 47 and elaborated in Figure 9. Also shown is the minimum setback (S) of 100 feet (about 30 m) for allowing construction on the view side of a house with a view of the sea. The hatched footprint and the setback stipulation (S) represent the level of the basic units of incremental change in the built environment. The scale of the grid on the plan is 100 x 100 meters. The gates of the city are: (1) Jaffa gate; (2) Jerusalem (Aelia Capitolina) gate; (3) Gaza gate; and (4) gate toward the sea.

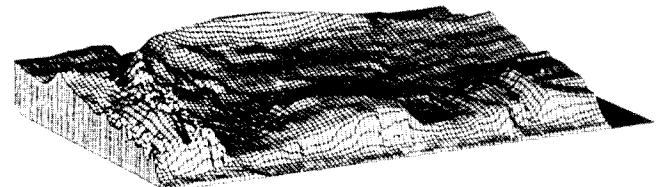
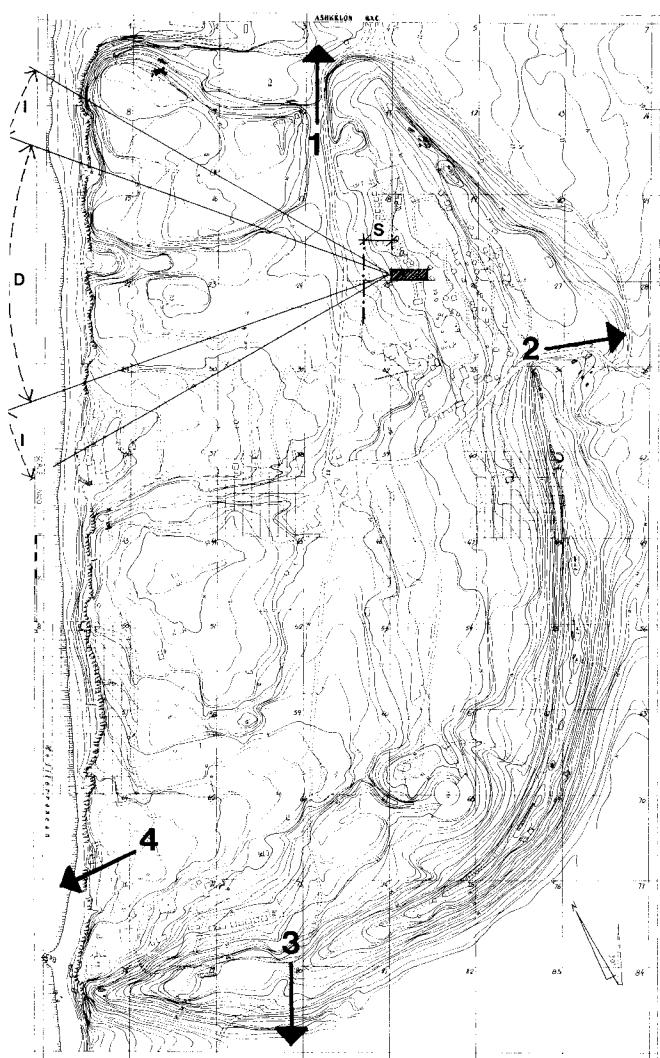


Figure 3 Ascalon, computer-generated bird's-eye view of the topography of the site from the northwest, fronting on the Mediterranean.

order, and this reputation continued well into the seventh century. In A.D. 636, Ascalon's city fathers accepted in peace the hegemony of the Arab Muslims, and there is evidence that the Arabs fully admired the city's beauty and architecture.¹² (See Figures 2 and 3 for the size, configuration, and topographic features of the city.) Many of the buildings comprising the

housing stock were three or four stories high, as demonstrated by the prescriptions for such buildings in Julian's treatise and the evidence from contemporary depictions (Figure 4).¹³ I have calculated an estimated area of 57 hectares (140 acres) for the city within its walls, with a gross density of approximately 270 persons/hectare (107 persons/acre).¹⁴



Figure 4 Mosaic image of Ascalon showing multistoried buildings flanking a round structure. This mosaic, among others, was discovered in the eighth-century Church of Saint Stephen at the site of the Byzantine town of Umm al-Rasas, 25 km southeast of Madaba, in Jordan. Photograph by Rami G. Khouri

Julian of Ascalon

According to Mikhail Sjuzumov, the only fact known about Julian is that he was an architect from Ascalon. Sjuzumov infers this from the title of the treatise, which he renders in Russian and which translates into English as, “From the treatise of architect Julian of Ascalon on the laws, or conventions, in Palestine.”¹⁵ This title is corroborated by a recent French translation.¹⁶ Sjuzumov attempts to connect Julian to a family of architects by pointing to an inscription on an early-fifth-century church in Brad, northern Syria (commonly referred to in Arabic as Qasr al-Brad), which indicates that its architect is Julian.¹⁷ On the other hand, Joseph Geiger mentions that the architect’s name (Julian) is inscribed on two churches at Brad, on the road from Antioch to Chalcis in Syria, dating from A.D. 399 and 402. He tentatively suggests that this Julian may be the father or grandfather of our Julian. Geiger is not certain whether Julian of Ascalon was pagan or Christian, but he thinks that our Julian had a “modicum of classical upbringing,” as evident from his writing style in “simple, unaffected and clear Greek.”¹⁸ He summarizes what is known about Julian: that he was an architect who lived in Ascalon, probably descended from a family of architects.

In the introduction of his treatise, Julian attempts to structure his work by using the four elements of fire, air, water, and earth, which indicates that he may have been interested in the theoretical aspects of the physical sciences.¹⁹ The city of Ascalon was also the home of Euto-

cious, born there about A.D. 480, a contemporary of Julian’s. Eutocius produced commentaries on Archimedes and Apollonius and is credited with making the latter’s work accessible to scholars of his generation.²⁰

The Historic Context of the Treatise

Scholars have situated the composition of Julian’s treatise within the years A.D. 531–533.²¹ Julian’s legal perspective was greatly influenced by the law school at Beirut, a major center of Roman law studies during that period.²² In fact, Justinian I had praised the school and invited two well-known jurists from its faculty to participate in the compilation of the *Corpus Juris Civilis*.²³

The conditional style used in most of Julian’s stipulations has precedence in ancient Near Eastern laws and appears as far back as the laws of the Old Babylonian city-state of Eshnunna in the nineteenth century b.c., discovered in the outskirts of Baghdad, Iraq, in 1948.²⁴ These ancient conditional laws are usually grouped in three categories: laws of persons, of things, and of procedures.²⁵ Roman law followed a similar categorization, and it has been suggested that the earliest “Roman laws of the twelve tables” were influenced by Near Eastern contacts.²⁶

Roman law in its classical period displayed a great deal of flexibility, particularly in its operation at the neighborhood level. Contracts between adjacent neighbors were based on the concept of servitude, or easement, in all its manifestations and were thereby responsive and sensitive to ongoing growth and change in the built environment. The system, as in ancient Near Eastern cities, relied on contracts between individual owners and was sensitive to conditions at the micro level of neighborhoods. As a result, the management of the built environment was from the bottom up and democratic in spirit.

Julian of Ascalon’s treatise, though incorporating local customs, is basically a collection of rules designed to be applied from the top down; its stipulations are written in a manner that rendered them unable to respond sensitively to microconditions. In that sense they were prescriptive, whereas the procedures and implementation techniques of classical Roman law tended to be proscriptive.²⁷ This is convincingly demonstrated by Alan Rodger, for example, in reference to preserving an acceptable level of natural light within a house if a neighbor were to raise his building or add to it in a way that would decrease the level of light in the adjacent structure.²⁸

Essentially, classical Roman law allowed freedom within the property of an individual owner, although this freedom was subject to proscriptive prohibitions. These

restrictions could be overcome, however, using the mechanism of servitudes (*servitutes*), particularly the *jus altius tollendi* (the positive form), which gave the beneficiary the right to build higher, or the *servitus altius non tollendi* (the negative form), which imposed on the owner the obligation not to build higher than a certain limit.²⁹ The law and its mechanism could be applied in any location and would still be responsive to local conditions. This could not be said for the prescriptions in Julian's treatise. Its stipulations were designed for the city of Ascalon and other Palestinian cities of the period sharing a similar climate, topography, and tradition of building. Yet, even within a particular city, the stipulations could not have been responsive to microconditions.

The emperor Zeno published building regulations, written in Greek, for the capital, Constantinople.³⁰ They employed distances between buildings as prescriptive stipulations, and levied severe fines on homeowners, architects, and contractors who violated them. On 1 September 531, Emperor Justinian I imposed Zeno's law, with associated fines, on all cities of the Byzantine empire.³¹ Documentary evidence dating from October 548 indicates that inspectors (*de discussoribus*) were sent to Palestine for the purpose of monitoring any violations in building activities. Julian's prescriptions were influenced by Zeno's stipulations for distances between buildings, particularly in order to maintain views of mountains and the sea and distances between balconies facing each other and overlooking the public realm.³² Julian makes reference to Zeno in Hex. 51, "Concerning the vista of the mountain and sea," and in Hex. 32, "On balconies."³³

Other legal sources predating Julian of Ascalon include the *Syro-Roman Lawbook*, which scholars date to the late fifth century A.D., more specifically to about A.D. 468.³⁴ Most of the stipulations in this lawbook address issues of personal law such as marriage and inheritance. Only two paragraphs (133 and 157) relate to the built environment. The former is about the responsibilities of owners for repair work in a multistory apartment building, addressing similar issues as those in Julian, Hex. 41 and 42. The latter covers roads, spaces between buildings, and drainage. Although Julian's stipulations are more specific than those in the *Syro-Roman Lawbook*, both documents treat similar concerns.³⁵

Another way of looking at Julian's prescriptions is with reference to the German terms *Reichsrecht* and *Volksrecht*.³⁶ The first refers to a top-down system of laws that usually rely on specific measurements derived largely from the experience of the empire's capital; the laws apply to all the cities of the empire. The latter term refers to customary laws that have evolved locally and might also be recognized regionally; they are well understood by all individuals involved in the day-to-day activities related to construction.

The impact of customary laws on the built environment is from the bottom up; that is, the aggregate of local microdecisions affects the overall character at the neighborhood level, and aggregates of neighborhoods shape the overall character of the city. It seems to this writer that Julian of Ascalon's motivation was to incorporate both types of laws in his treatise.

The similarities between certain prescriptions in Julian of Ascalon's treatise and the Jewish law of the period were not due to direct borrowing but rather to earlier influences from Hellenistic and Roman laws on the one hand, and ancient Near Eastern laws and customs on the other. For instance, the concern to prevent damages was one of the primary considerations of ancient Near Eastern laws; it is evident as an important aspect of the Roman legal concept of *damnum infectum* (threatened damage).³⁷ In a study addressing this issue, Saul Lieberman argues that in the larger cities of Palestine, particularly the coastal cities with a mixed population, Byzantine authorities did not take into account Jewish law and judgments regarding buildings and hygiene.³⁸ He maintains that some Byzantine laws for cities became the custom of the land and were also binding on the Jews. Indeed, Jewish law accepted the law of the land.³⁹ Lieberman shows, for example, that in the city of Tiberias in the Galilee region, with a majority Jewish population, the glass industry was located outside the city limits, confirming one of Julian of Ascalon's stipulations (Hex. 19).

Another interesting observation by Lieberman is that only those stipulations and customs that had the force of law have reached us from Julian's treatise. Among them is the custom in Ascalon and Caesarea regarding the method of sharing expenses between owners of lower and upper levels in a multistoried apartment building (Hex. 42). According to Lieberman, there must have been other local customs that Julian documented in his treatise, but these were either lost or omitted from later laws.⁴⁰ If omitted, then this was most likely done by Byzantine authorities when they attached Julian's treatise to the *Book of the Eparch* in the early tenth century.⁴¹

Diffusion of the Treatise

Until 1893, Julian of Ascalon's treatise was known through the *Hexabiblos* of Armenopoulos.⁴² Its compiler, Constantine Armenopoulos, was a fourteenth-century jurist; he is identified with a document signed by him in 1345, indicating his title as judge of Thessaloniki. The *Hexabiblos* (Six books) is a corpus of secular law that is also called the *Procheiron nomon* (Handbook of the laws) and dates to A.D.

1345. Armenopoulos used a number of known references, including the treatise of Julian of Ascalon. He organized the legal material into an easily usable manual that became very popular, transmitted in almost seventy manuscripts. In practice, the *Hexabiblos* served as a law code.⁴³

Jules Nicole, a Swiss scholar born in Geneva in 1842, discovered *The Book of the Eparch* in 1891 at the Geneva University library. He attributed it to the period of Emperor Leo VI (A.D. 886–912), specifically to the second half of the emperor's reign. The manuscript found by Nicole, however, dates from the fourteenth century and is written in cursive Greek (Figure 5). Nicole added a Latin translation and published it in Geneva in 1893 under the title *Le livre du préfet (Eparchicon biblion), Text grec du Genevensis 23*—“published for the first time by Jules Nicole with a Latin translation, notices, critiques and variants of the Genevensis 23 with the text of Julian of Ascalon.”

Based on available evidence, Julian's treatise was disseminated as part of the *Book of the Eparch* in Constantinople, 377 years after it was written in Ascalon. In 1345, in Thessaloniki, it was included in Book Two of the *Hexabiblos*, a span of 812 years after its authorship. From then on, it spread wherever the *Hexabiblos* was adopted and used, particularly in Greece, where it survived well into the twentieth century, as well as in many Slavic countries.⁴⁴ In brief, Julian of Ascalon's treatise, written during the years A.D. 531–533, was resurrected at least two times, approximately 400 years apart, and its influence endured for about 1,400 years. It is because of its widespread impact and longevity within the eastern Mediterranean that the treatise is worthy of careful study.

The Organization of Julian's Treatise

Julian chose the metaphor of the four elements of fire, air, water, and earth to structure his compilation. He begins with this statement: “There exist four elements: fire, air, water, and earth, and by virtue of their influence [on the construction of buildings] many misconceptions arise in people's minds. We therefore consider it expedient relative to the nature of these elements to include [in a treatise] a compendium of the situations that occur [due to the influence of these elements], explaining both the causes and incurred damages, and to offer appropriate solutions [. . . to avoid damage].”⁴⁵

The first and second group of cases in Julian's treatise, namely, those related to fire and air, are preceded by a heading to that effect. However, the cases that belong to water and earth do not bear corresponding titles.⁴⁶ The latter might have been dropped or lost in the process of recopy-

ing that produced the extant copy of Genevensis 23 from the fourteenth century.

I have devised a different structure for analyzing Julian's treatise, more compatible with the underlying goal of his work. However, it is worthwhile to discuss briefly the framework he used, in order to demonstrate that the elements are generally redundant; it is their underlying philosophy, not discussed by Julian, that is most significant. The following brief discussion should clarify this point.

Empedocles (490–430 b.c.), the Greek philosopher, statesman, poet, religious leader, and physiologist, is known for the philosophy that assumes four eternally existing “roots.” He believed that two forces, Love and Strife, interact to unite or separate the four elements. Strife acts to make an element withdraw itself from the others, creating imbalance, whereas Love leads them to mingle, achieving balance.⁴⁷ It is the state of balance, or in the case of the built environment, the state of equitable equilibrium, that is central to Julian's concerns and constitutes the rationale for his prescriptions.⁴⁸ A central preoccupation of his treatise deals with change in the built environment, which unleashes the opposing forces of Love and Strife; his prescriptions are designed to encourage Love to prevail. If this occurs, the damage in the built environment will be minimized; people's rights and responsibilities will be fairly allocated, facilitating the maintenance of an equitable equilibrium in the built environment during the processes of change and growth. In other words, when the force of Love prevails, the four elements will mingle together equitably, achieving a state of balance. Julian does not mention Empedocles' underlying philosophy of Love and Strife, but only the four elements. This is why the use of the four elements as a framework for the treatise creates difficulty in rationalizing the categorization of the cases presented; furthermore, it does not help to clarify the underlying purpose of his stipulations. Therefore, it is not surprising that Armenopoulos did not include, or even allude to, the four elements in his *Hexabiblos*; he might have thought they were redundant or did not add substance to the stipulations he copied from Julian's treatise.⁴⁹

Julian's Goal and Intentions

The goal of Julian's treatise is to deal with *change* in the built environment by ensuring that *minimum damage* occurs to preexisting structures and their owners, through stipulating fairness in the *distribution of rights and responsibilities* among various parties, particularly those who are proximate to each other. This ultimately will ensure the *equitable equilibrium* of the built environment during the process of change and growth.

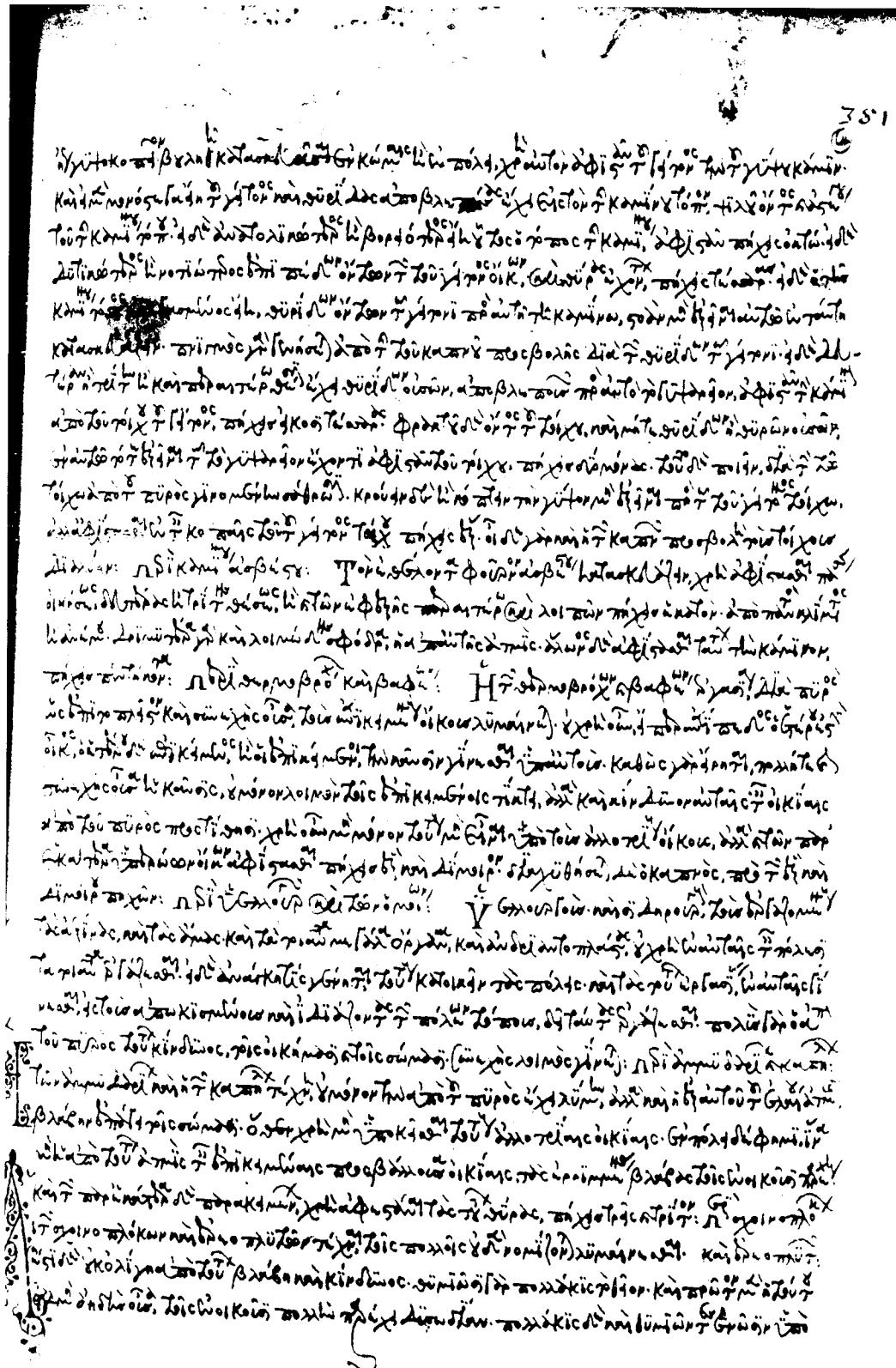


Figure 5 Page from the manuscript Genevensis 23, fol. 381r. This page contains the cases identified by Armenopoulos in his *Hexabiblos* 2.4 as case numbers 16, 17, 18, 19, 20, and 21.

- Julian's intentions can be grouped in seven categories:
1. Change in the built environment should be accepted as a natural and healthy phenomenon. In the face of ongoing change, it is necessary to maintain an equitable equilibrium in the built environment.
 2. Change, particularly that occurring among proximate neighbors, creates potential for damages to existing dwellings and other uses. Therefore, certain measures are necessary to prevent changes or uses that would (a) result in debasing the social and economic integrity of adjacent or nearby properties, (b) create conditions adversely affecting the moral integrity of the neighbors, and (c) destabilize peace and tranquility among neighbors.
 3. In principle, property owners have the freedom to do what they please on their own property. Most uses are allowed, particularly those necessary for livelihood. Nevertheless, the freedom to act within one's property is constrained by preexisting conditions of neighboring properties, neighbors' rights of servitude, and other rights associated with ownership for certain periods of time.
 4. The compact built environment of ancient towns such as Ascalon necessitates the implementation of interdependence among citizens, principally among proximate neighbors. As a consequence of interdependence, it becomes necessary to allocate responsibilities among such neighbors, particularly with respect to legal and economic issues.
 5. It is desirable to maintain a built environment that will uplift the spirit of its inhabitants. Certain views should be preserved, especially those that give pleasure to the beholder or bear cultural significance. Making use of the bounties of nature within one's property, such as collecting rainwater and planting fruit trees and vineyards, should be encouraged.
 6. The use of improved building materials and construction techniques should be encouraged, as their utilization will reduce the burden of preventive setbacks from property boundaries and thus maximize the potentials of the land.
 7. The public realm must not be subjected to damages that result from activities or waste originating in the private realm, or from the placement of troughs for animals.

Technical Aspects of Julian's Treatise

I have developed a framework of five categories, discussed below, to analyze the technical aspects of Julian's treatise: land use (including baths, artisanal workshops, and socially offensive uses), views (both for enjoyment and those considered a nuisance), houses and condominiums (involving acts that debase the value of adjacent properties, walls

between neighbors, and condominiums in multistory buildings and those contiguous with porticoes), drainage (of rainwater and waste water), and planting (of trees, shrubs, and other vegetation).

According to the author of *Le traité*, the cubit Julian of Ascalon uses is equivalent to 52.50 cm, and the foot is 35 cm.⁵⁰ However, for simplifying conversions to the metric scale and for appreciating the metric equivalents cognitively, it is convenient to assume the cubit to be 50 cm and the foot to be 30 cm.

Land Use

Land use in Julian's treatise refers to the control and prevention of potential damage that could result from proposed uses adjacent to or near existing dwellings.⁵¹ The latter could be a single-story house or an apartment building (condominiums) of two, three, or more stories. In broad terms, the cases that Julian cites can be grouped in two subcategories. The first consists of proposed uses that can inflict damages to nearby existing buildings due to fire sparks, smoke, offensive odors, and vibrations that can harm adjacent walls. Under this category Julian includes private baths (as an addition to an existing building or as a new structure) and baking ovens, as well as pottery kilns, gypsum workshops, kilns for lime burning, and workshops for dyeing cloth, glassmaking, vegetable-oil making, rope making, and preparing marinades. The second subcategory includes socially undesirable uses—such as taverns, brothels, and stables—near an existing dwelling.

In both categories the approach, in principle, is to allow the proposed use if certain precautionary measures are taken. Modest distances between the use and the existing dwelling are specified as the usual remedy, as in the case of a bath, bakery, pottery kiln, or gypsum workshop. Longer distances are required for threshing floors and kilns for lime burning; glassmakers are not allowed to locate within a town. In the case of socially undesirable uses, the remedies range from locating doors so that they will not face the door of an existing dwelling, to prohibiting outside benches for clients of a tavern and troughs or stalls for animals near proposed buildings, on public streets and squares, and adjacent to public porticoes. Brothels are in principle prohibited in towns but might be allowed in a village, if its local customs do not oppose them.

The following examples offer detailed discussions on land use issues dealing with baths and artisanal workshops.

Prevention of Damage Due to Fire Sparks and Smoke

To design and communicate his prescriptions for the following cases, Julian envisages a schematic layout in plan

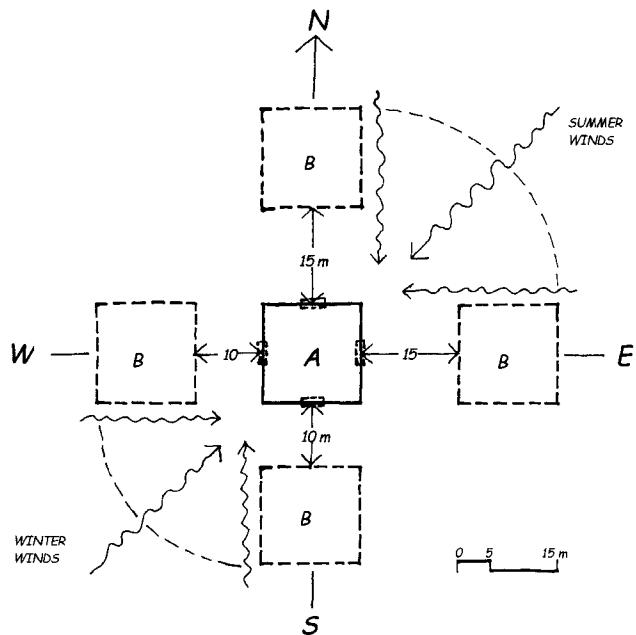


Figure 6 Julian of Ascalon's generalized plan for establishing and communicating his prescriptions. The existing structure (A) is imagined to be located at the junction of the cardinal points, and it could be one, two, three, or more stories, with or without openings toward a proposed structure (B). The latter's location can be on any of the four sides of (A). Setback dimensions relate to the case of the proposed bath (B).

form based on the cardinal points. The existing building is located at the center (the junction of the north/south and east/west axes), and the proposed uses are assumed to locate in any of the four cardinal directions on the sides of the existing building (Figure 6). It is interesting to note that although the coast of Palestine lies on a northeast/southwest axis, Julian chose to discuss his cases and stipulations based on the cardinal directions. This might have been for the purposes of clarity, but it was more probably due to the sixth-century view in Palestine that in fact the region was oriented in this way.

Julian usually assumes that the existing structure (Figure 6, A) is either one story (a single dwelling) or two, three, or more stories (an apartment/condominium building). He further assumes that each possibility may be with or without windows facing the proposed use. We have thus four possible conditions for the existing building (A), for each of which Julian proposes remedies in the form of setbacks from (A). In the case of a proposed *bath* facility (Hex. 13), the potential damage is predicted to be from the chimney or the stove that heats the water, which is usually in continu-

ous use. The chimney emits smoke and occasionally sparks, and the prevailing wind can carry them to neighboring buildings. Below are Julian's prescriptions to remedy this condition, along with the underlying rationale:

1) If (A) is an existing building of two or three stories with windows facing the proposed bath (Figure 6, B), and if (B) is to the south or west of (A), then a minimum of 20 cubits setback must be allowed. Julian's reasoning is that winds blow from the south and the west in winter, when windows of the neighboring dwelling are rarely opened and when the heat from the bath stove is dissipated and thinned out by the moist breeze. If (B) is to the north or east of (A), then a minimum of 30 cubits setback must be observed, because the prevailing wind blows primarily from the north and the east during summer, when windows are frequently opened and the proposed bath (B) may inflict damage on (A).

2) If (A) is an existing building of two or three stories with a blank wall facing the proposed bath (B), then the setbacks can be reduced to one-third of those specified above.

3) If (A) is a one-story building and is the same height as the proposed bath (B), with openings that face (B), then the setback distances can be one-third of those stipulated in 1 above, or the same as in 2.

4) If (A) is a one-story building, is the same height as the proposed bath (B), and has a blank wall facing (B), then the setback distances can be reduced to one-sixth of those specified in 1.

Julian indicates that the above stipulations are for locations within towns. Setbacks in villages can be reduced by one-half.

I have assumed the footprints for the existing building (A) and the proposed building (B) to be 15 x 15 meters. I have also equated 1 meter to approximately 2 cubits. Thus when a 30-cubit setback is stipulated between buildings (A) and (B), the total footprint of buildings and their setbacks is a rectangle of 15 x 45 meters (see map of Ascalon in Figure 2 to appreciate the scale of this footprint within the overall size of the town). This is an important observation, as it points out that interventions in the built environment are undertaken in small increments, and the aggregate of ongoing interventions is reflected in the overall character of the town.

In the construction of a *bakery* (Hex. 14), Julian assumes the existing building (A) to be either one, two, three, or more stories high. He neither concerns himself with openings facing the proposed bakery nor does he give a reason for this omission. He mentions, however, that bakeries usually operate during nighttime hours. He thus stipulates building the bakery on an elevated area if possible and observing, in towns, a setback of one-half of that

specified for baths and, in suburbs or villages, one-half of the setback devised for urban areas (Hex. 13).

In the case of *pottery kilns* (Hex. 15), Julian specifies requirements only for villages, reflecting the custom that these workshops are commonly located in villages. He notes that they operate usually in summer months. The rationale for the setbacks is similar to that for baths but with shorter dimensions. In the case when an existing building (A) is two, three, or more stories high and has openings toward the proposed pottery kiln (B), a 20-cubit setback is required if (B) is to the north or east of (A); if (B) is to the south or west of (A), the setback is 12 cubits. If the existing building is one story with a blank wall facing the proposed kiln, the setback can be reduced to one-third of those dimensions. In the event that a proposed pottery kiln is to be located adjacent to another pottery kiln, the setback distances are more: 30 cubits for sites to the north and east of the existing kiln and 15 cubits for sites to the south and west.

Workshops of *glassmakers* (Hex. 19), glassblowers, and makers of axes and sickles (blacksmiths), according to Julian, are prohibited in towns due to the severe danger their fires pose. However, if they have to be located within the town boundaries, they must be sited in an uninhabited area.

Prevention of Damage Due to Vibrations

There is only one case that mentions the damage that might occur due to vibrations, and that is the case of *gypsum workshops* (Hex. 16). Although damage from this type of workshop can be caused by fire and smoke, for which setback distances are specified, vibrations from the grinding and pulverizing of gypsum can also harm adjacent walls. Accordingly, Julian specifies 6 cubits as the setback from an existing wall, to isolate the effect of the vibrations.

Prevention of Damage Due to Odor

Four cases discuss the problem of damages due to unpleasant odor. They are dealt with according to the level of their impact on the built environment. *Marinade preparation* (Hex. 22) produces a very strong and unpleasant odor that, according to Julian, travels long distances and remains in the air for a long time. In principle, such businesses should be prohibited from locating in towns and villages, but if they are necessary their minimum distance from an existing building should be 3 stadia (3 x 400 cubits = 1,200 cubits, or about 600 meters).

For *kilns for lime burning* (Hex. 17), a distance of 100 cubits (about 50 meters) should be observed from a building of two, three, or more stories, regardless of the orientation of the wind. There is no mention of the setback requirements from a one-story building. The distance can be reduced to one-half (50 cubits) if the existing nearby

facility is a threshing floor. Because *oil makers' workshops* (Hex. 20) pose a danger due to the spread of fire, and also produce a harmful odor that can cause illness, they are prohibited from locating beneath or adjacent to an inhabited part of a building. If they are to be located opposite an existing building, then a setback distance of 3.5 cubits is necessary between the doors of the two buildings.

Julian reminds us that the workshops of *rope makers and fullers* (wool washers) (Hex. 21) burn sulfur for fumigating and generate an offensive odor. Occasionally fire is used in the process, creating potential danger to neighboring properties. In this case, Julian does not specify setbacks but simply states the requirements that these workshops should be isolated and not allowed to be contiguous with any other structure. He also stipulates that if it is necessary to locate them in proximity to or contiguous with other structures, the owner of the workshop must provide written assurance to residents of adjacent houses that he will not use sulfur for fumigating purposes.

Socially Undesirable Uses

The four following examples discuss uses that are socially undesirable near an existing dwelling. Julian starts this category with a proposed *house or warehouse* (Hex. 23) to be located adjacent to an existing building on flat terrain. He assumes that such a structure would not be a source of damage and suggests a 10-foot (about 6 cubits) setback from the existing building, allowing for windows and doors on any side of the proposed structure. He explains that if it is a warehouse, its door will be used only occasionally and thus should not be a source of nuisance.

When the proposed structure is a *stable* (Hex. 25), Julian does not specify the type of animal to be housed there, but he mentions oxen in a later case. His only stipulation is that the door of the stable should not be adjacent to or face the door of a dwelling; it can, however, be set back from its location across a street so that an oblique line of vision is created between the two doorways (Figure 7). There is no mention of a minimum setback for the proposed building, but one can assume from the previous case that it would be 5 cubits from an existing structure. It is interesting to note that Julian does not specify here a distance from the door of the stable to an adjacent door, or to the door of a dwelling on the opposite side of a street. This proscriptive approach is rarely used by Julian.⁵²

When the proposed building is a *tavern* (Hex. 26), Julian's remedy for the location of the door is similar to the previous case. To prevent trouble, the owner of the tavern is not allowed to provide outside benches for his clients, or an outside straw mattress. Activities such as drinking and reclining must be confined within the building. In addition,

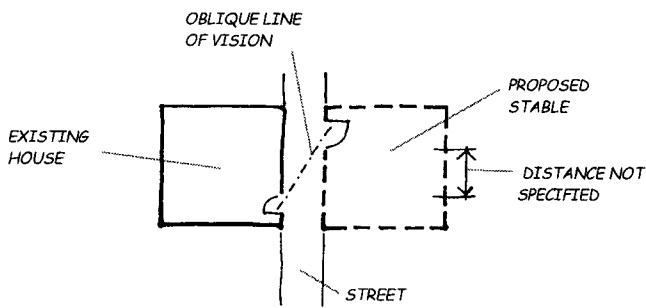


Figure 7 Location of the door for a proposed stable relative to the existing door of a house across the street (Hex. 25)

troughs for animals are not permitted outside, even temporarily during construction. Julian's reason for this stipulation is the animals' unpleasant odor. Julian continues by explaining the principle of rights secured by a servitude and attached to an earlier use: if the tavern existed prior to the construction of an adjacent house, the owner of the house cannot challenge the continued use of the tavern. If both uses (tavern and house) have been there for a long time, and it is not clearly established which is older, then the owner of the house cannot lodge a complaint against the tavern owner or demand changes to its use. However, if the house existed before the tavern and the owner of the house had not lodged a complaint while residing in his house for ten years, or while absent for twenty years, then he loses his rights of servitude. Julian also indicates in this case that constructing another building nearby for the same use as the tavern or the stable is not allowed.

Brothels (Hex. 27) are not allowed in houses or taverns in towns. As for tavern owners in villages who might want to provide brothel services, the decision depends on the local customs of the particular village.⁵³

In dealing with socially undesirable uses, Julian also reminds us that stalls for livestock are not allowed in public streets, squares, or privately co-owned passages in towns, due to the danger posed by animals such as oxen to passersby, as well as the unpleasant odors.

Rules for Land Use Derived from Julian's Case Studies

1. Certain uses are prohibited in towns, such as glassmaking and blacksmithing. Others—for example, marinade preparation—are not allowed in towns or villages, but when necessary they should be placed at a distance of 1,200 cubits (600 meters) from the settlement. This dimension is equiv-

alent to the width of the town of Ascalon, or approximately one-half its length.

2. Setbacks are prescribed to prevent sparks and smoke from reaching existing buildings.⁵⁴
3. An elevated area is encouraged for certain uses, such as bakeries, to promote the dissipation of sparks and smoke away from existing buildings.
4. The orientation of the wind and consideration of periods of operation for specific types of workshops are used for determining setback requirements to prevent the transfer of fire and smoke. Although wind also facilitates the transfer of odor, Julian does not mention those implications.
5. Location of openings (primarily windows) on walls facing a source of potential damage increases the distance of setback requirements.
6. The height of an existing building affects the setback requirements. The higher the building, the wider is the setback between the building and any potential source of damage, such as from fire and smoke. A one-story building usually requires one-third of the setback for a building of two or more stories.
7. If an existing structure is two or more stories high with no windows facing a source of potential damage, the setback can be reduced to one-third of the distance required when there are windows in that direction. However, if the structure is of one-story with no windows facing a source of potential damage, then the setback can be one-sixth of the required distance for a building of two or more stories with windows facing the source of potential damage.
8. Although most of Julian's design rules employ prescriptive standards, in a few cases he uses proscriptive stipulations, such as the case of locating the door of a stable (Hex. 25). In proscriptive stipulations, Julian does not specify dimensions.

Views

Views for enjoyment and views causing a nuisance through overlooking are both addressed by Julian.⁵⁵ For the former, Julian preambles the case concerning the *vista of an area as seen from a house* (Hex. 47) by arguing that "the faculty of sight is the most acute of all the senses, manifesting itself over very long distances." He also acknowledges legal precedence concerning views and mentions three types that should not be obstructed by new construction: views of the sea; views of gardens, trees, and groves; and views of public paintings. He clearly establishes the parameters for defining a direct view from a house: there must be an unobstructed sight line from a window. An oblique view is considered indirect and cannot legally be used as a basis for challenging obstruction (Figure 8).

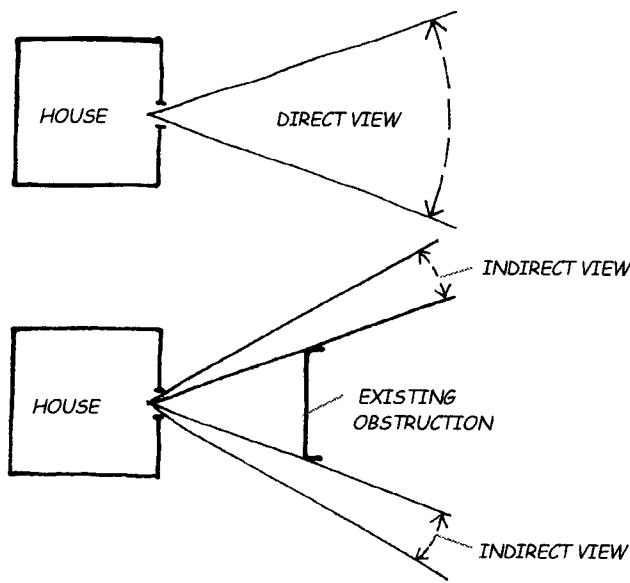


Figure 8 Clarification of direct and indirect views (sketches are in plan) (Hex. 47)

Julian maintains that legal precedence on views is vague and has been misunderstood by those who propose building on the sight line of a view (the visual corridor) from an existing house. He calls for the development of careful criteria; otherwise, he cautions, if every new building is challenged because of its potential to obstruct a view, the construction of houses, towns, and villages will be precluded altogether. Accordingly, Julian stipulates that the most pleasant views are direct sea views, defined as the view of a harbor, if there

is one, or the view of anchored ships; and views of the nearby sea, understood to include the shoreline. In some cases, both types are combined, but they might be distinct. Distant views of the sea cannot be used to challenge new construction (Figure 9).

The case of the *vista of mountains or the sea* (Hex. 51) offers additional criteria to deal with the obstruction of such a view. Julian equates the pleasure derived from both types of views and accepts Zeno's stipulation that new construction should be allowed if a minimum setback of 100 feet (about 30 meters) is allocated to a house with a sea view (see Figure 9).⁵⁶ Julian's acceptance of Zeno's law leads to a certain inflexibility, making it difficult to respond to specific site conditions, particularly in places that slope gently toward the sea. On the other hand, by equating the value of mountain and sea views, he has made his stipulation more inclusive than Papinian's, which only prohibits views of mountains from being obstructed.⁵⁷

The owner of a house with a *view of a garden* (Hex. 48), or an area planted with trees, can demand that a new construction that might obstruct his view be placed at a minimum distance of 50 feet (about 15 meters). Julian does not mention the effect on the view of the height of the new building or the nature of the terrain between the existing and proposed buildings.

The third type of view that can be used legally to challenge new construction is the *view of a public painting* (Hex. 49). It is obvious from this case that paintings of historical or mythological scenes on exterior walls, whether walls of buildings or walls specially constructed for this purpose, were popular in Ascalon and other Palestinian cities during the sixth century, and that people enjoyed viewing them

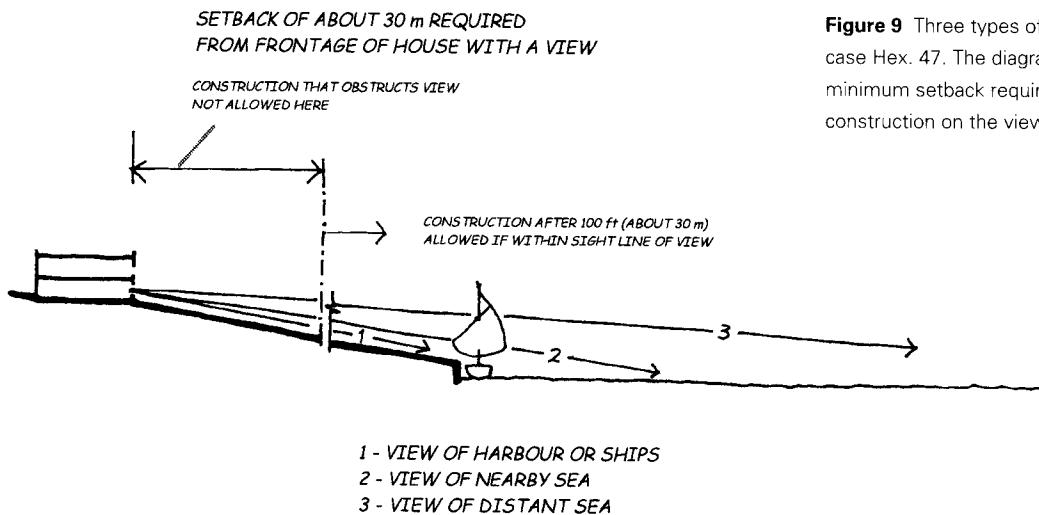


Figure 9 Three types of views discussed in the case Hex. 47. The diagram also shows the minimum setback requirements for allowing construction on the view side of a building (Hex. 51).

from their houses. However, Julian stipulates a condition for seeking to protect a view of a public painting: the person with such a view must appreciate and understand its significance, in which case he can demand a setback of 50 feet (about 15 meters) between his house and the new construction. This is the same distance stipulated for views of gardens.⁵⁸

For views as a nuisance, the case of *overlooking the houses of others* (Hex. 50) sets the stage. Here Julian addresses a basic principle of whether existing dwellings can prevent the construction of nearby new houses, based on the fear that they would overlook the older houses' windows and doors and invade their owners' privacy. Julian clearly affirms that the owner of an existing house cannot stop new construction on these grounds, and mentions that precedence affirms this principle. He maintains that only envious or spiteful owners of existing houses might obstruct the rights of others to build. Julian accepts that overlooking will occur between existing and new buildings, and suggests that if the owner of an existing house does not want to be overlooked, he should create his own defensive measures in the form of curtains or shutters on his windows.

Despite this principle, Julian makes stipulations about *opening a window in a blank wall* (Hex. 33) and *constructing a balcony* (Hex. 32). In the former case, owner (A) has a window that faces the blank wall of an opposite neighbor (B) (distance not mentioned). If (B) wants to open a window for ventilation and/or light, he can do so, provided the proposed window sill is 3.5 cubits (about 1.75 meters) above the floor level of the room, that is, above eye level of a person standing in (B)'s room. (B) is thus prevented from overlooking (A)'s window. However, if (B) wants to build a window for looking out, he can do so only if the distance between the walls of (A) and (B) is 20 feet (about 6 meters) or more. Julian explains the reason for requiring this distance as a measure to discourage reciprocal invasion of privacy and thus to prevent the corruption of morals.

As for the latter case of constructing a balcony (Hex. 32), if an existing owner (A) of a window with a balcony that faces the public realm, such as a street or square, has a neighbor (B) across the street who wants to construct a balcony, then (B) should be allowed to do so, provided a minimum distance of 10 feet (about 3 meters) is maintained between the two balconies. This dimension affirms Zeno's law regarding such cases, even though it is half the distance established for the earlier case. Clearly, Julian does not want to contradict an established imperial stipulation. This case also affirms the principle of reciprocity: if (A) enjoys the view of the public realm from his balcony, then (B) should be allowed to build one and enjoy the same view.

Rules for Views Derived from Julian's Case Studies

1. What you can see determines the basis for preserving the view.
2. Direct views of a harbor, anchored ships, the shoreline, and mountains are considered the most enjoyable views and should be preserved.
3. Direct views of a garden with trees and of public paintings depicting popular historical or mythological scenes should be preserved.
4. In principle, the owner of an existing house cannot prevent the construction of a nearby house on the pretext that the occupants of the new house will be able to overlook him. The owner of the existing house, if he so desires, should use preventive measures to obstruct overlooking.
5. The principle of equitability between neighbors is used to determine the construction of windows or balconies for a house neighboring another that has one or both of those elements.
6. Setback requirements are the mechanism used for preserving views and for making it possible to add a window or a balcony.

Houses and Condominiums

The cases concerning houses and condominiums are grouped in three categories: acts that could debase the value of a neighbor's property; problems among neighbors due to shared walls; and issues of condominiums in multistory buildings.⁵⁹

Debasement of the Value of Adjacent Properties

Increase in building height (Hex. 28) concerns situations where the owner of one of two nearby structures wants to add one or more stories to his building. The fear is that such an addition could potentially diminish the value of the other building. Julian explains that two conditions have to be met when an existing two-story house (A) is near an existing house (B) whose owner wants to add another story: the two houses must appear to be of similar status in appearance and plot size; and a minimum distance of 10 feet (about 3 meters) must separate them. If both conditions are met, then the owner of (B) can add a second story to his house, thereby matching in appearance house (A) without diminishing its value. However, if there is a minimum space of 20 feet (about 6 meters) between two neighboring buildings, and if (A) is two, three, or more stories high, whereas (B) is a one-story building, then the owner of (B) can build additional stories to his house and can open windows facing (A) regardless of whether or not (A) has windows looking

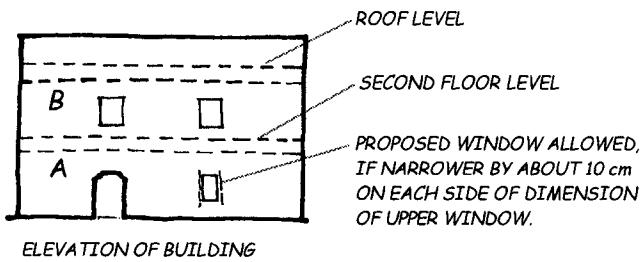


Figure 10 Stipulations for opening or widening a window or door on the lower level relative to an existing opening on the upper level of a two-story structure (Hex. 29)

toward (B). In villages the minimum distances may be reduced by one-half.

The following two cases concern changes affecting the exterior wall of a two-story building, where (A) is the owner of the lower apartment and (B) the owner of the upper one. Concerning *opening or enlarging a door or window* by (A) (Hex. 29), the premise is that alterations by owner (A) to the lower part of a two-story exterior wall by opening and/or enlarging doors and windows might cause structural damage to the upper portion of (B)'s wall. Assuming (A)'s door and/or window is small and he wants to enlarge it or open a new one, Julian stipulates that (A) is not permitted to do so unless (B) has a window above the door or window of (A). The requirement then is that (A) may open a new door or window or enlarge the existing one, provided it is 6 fingers (about 10 cm) narrower on each side than the opening above; and (A) must notify (B) in writing of the changes to (A)'s wall and also assume full responsibility for any damage that may occur to (B)'s wall within a period of two months after the completion of the changes in (A)'s wall. (A) must in addition cover all expenses due to potential damage to the crossbeams and doorframes in (B)'s apartment (Figure 10).

The second case deals with *replacing piers by columns* (Hex. 30). Replacing piers of exterior walls by columns, which are less space-consuming and more elegant, should not be prevented. In the case of (A)'s lower apartment, the only stipulation is that the diameter of the column that replaces the pier should be one-half of the diameter of the pier. If owner (B) of the upper apartment wants to replace his pier, he is allowed to do so only after installing a beam under the column to distribute the weight evenly on the lower portion of the wall. The beam must have a minimum thickness of 8 fingers (about 13 cm).

The case of an *additional door to a communal courtyard* (Hex. 31) addresses potential harm to tranquility and pri-

vacy that may result from an increase in traffic due to opening another doorway onto a communal courtyard. The additional door may open directly onto the courtyard or indirectly via a warehouse or workshop. Julian's remedy is based on the principle of maintaining the original levels of traffic, and thus stipulates that if a new door is desired it can replace the older one, which should be permanently sealed.

Walls Between Neighbors

The first two cases (Hex. 83 and 85) concerning walls between neighbors address the rights and responsibilities of owner (B) whose property abuts a wall belonging to (A). In the first case, (B) undertakes to dig adjacent to (A)'s wall; in the second case, (B) wants to construct a wall adjacent to (A)'s wall. These are followed by three cases (Hex. 34, 35, and 36) that deal with the situation when (B), whose vacant lot is adjacent to (A)'s building, wants to construct a new building adjacent to or abutting the wall of (A)'s building. The last two cases (Hex. 37 and 38) address the situation when two existing buildings of the same height abut each other and (B) wants to add a penthouse to his roof either when (A) already has one, or when (A) does not. In all of these cases, it is permitted to build adjacent to or abutting an existing wall belonging to another owner, provided certain conditions are met.

In the case dealing with *excavations* (Hex. 85), (B) should allocate a distance of 6.5 cubits (3.25 meters) from (A)'s wall before digging on his property. However, if (B) wishes to build a wall adjacent to (A)'s wall, then the level of the foundation for (B)'s wall should be higher than (A)'s foundation (Figure 11). In addition, if (B) digs a pit on his property (Hex. 83), he should not pile the soil against (A)'s wall. If necessary, however, he can keep it there for a few days, with (A)'s permission. This stipulation is designed to prevent the dug-out soil, particularly if it is wet, from damaging (A)'s wall. Should (A)'s wall have a berm facing (B)'s property, then (B) is not allowed, while working on his lot, to modify the berm in any way (Figure 12).

If (B) wishes to *construct a building on his vacant property that will abut an existing wall belonging to (A)'s building* (Hex. 34), a number of stipulations should be observed. If (A)'s wall encloses his courtyard, then (B) can abut this wall, hence use it structurally, and raise his new building to the height he desires. In this situation, (B) has to pay one-half the cost of (A)'s wall (Figure 13). However if (A)'s wall is part of a building with more than one story, and (B) wants to make use of the wall, then he may do so only if his building is one story and if he abuts the existing wall without using it for structural purposes. In this event, (B) has to pay (A) one-third the cost of the wall. Estimation of

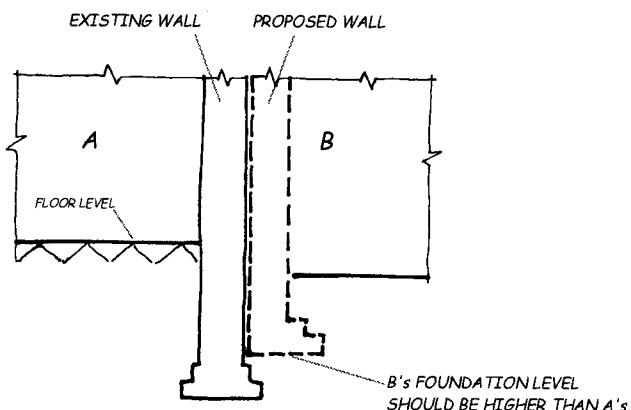


Figure 11 Treatment of the foundation of a proposed wall (B), adjacent to an existing wall (A) (Hex. 85)

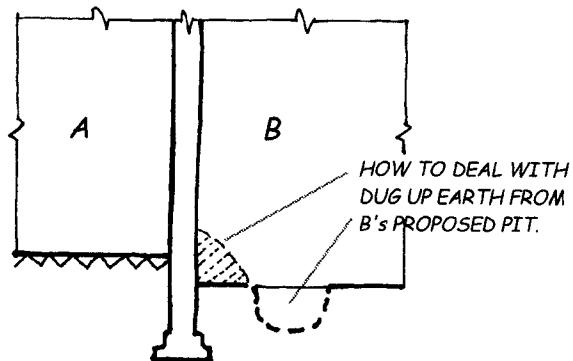


Figure 12 Stipulations for digging on one's property (B), when adjacent to the wall of a neighbor's house (A) (Hex. 83)

costs in both cases is to be decided by an expert in these matters.

(B) wishes to build on his vacant lot and use (A)'s wall; if the wall encloses a room and has small windows in it, and if this configuration has existed for ten or more years, then (B) must set back from the wall by 3.33 cubits (about 1.66 meters) (Hex. 35). But if (A)'s room has additional windows

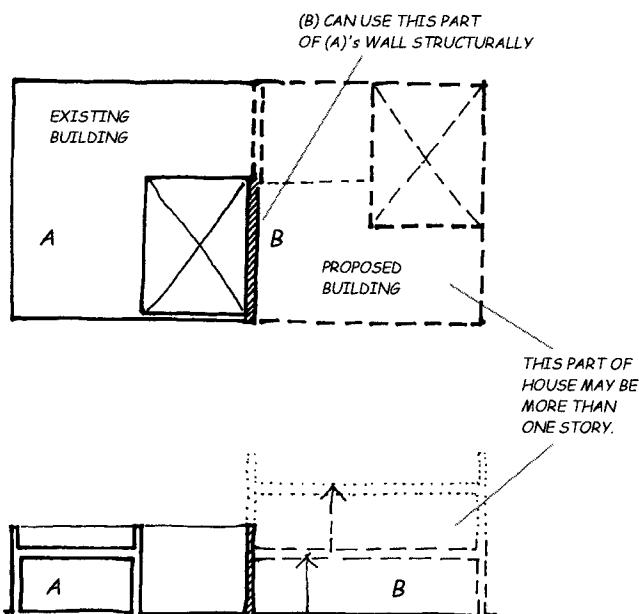
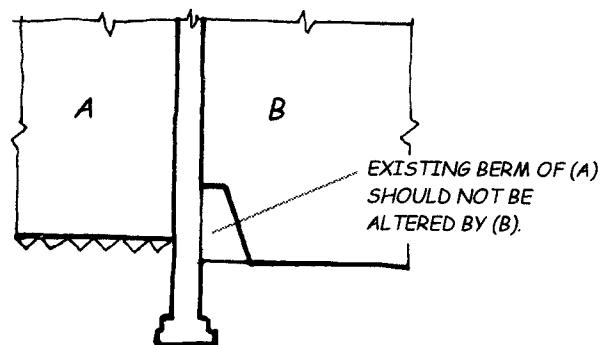
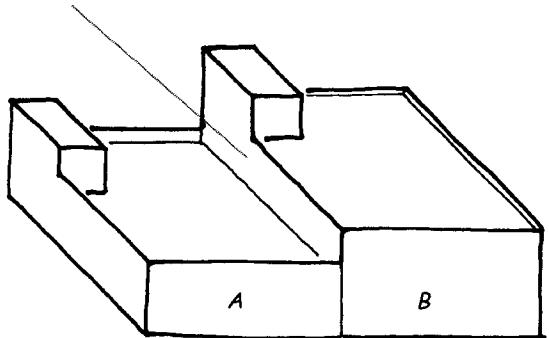


Figure 13 Abutting a proposed building to the existing wall of an adjacent building (first part of Hex. 34)

on its other side, then he cannot prevent (B) from abutting his wall and using it for his new construction. These cases also relate to the possible situation where (A)'s rainwater spouts have been emptying onto (B)'s property for a long time (Hex. 36), and (B) wishes to build on his vacant lot. Here there are two stipulations to consider: if (A)'s wall has no windows, then (B) has to divert the rainwater spouts within his property so that no damage occurs to (A)'s wall; however, if (A)'s wall has windows, then (B) has to observe the 3.33-cubit setback.⁶⁰

In the case of two existing buildings of the same height that abut each other (owned by A and B), if (B) wants to add a penthouse to his roof, Julian considers two conditions: when (A) has a penthouse (Hex. 37) and when (A) does not (Hex. 38). In the former situation, (B) cannot build a penthouse, because the addition, as Julian explains, would create a condition that would encourage squabbles between the neighbors. Julian stipulates that if (B) wants to build a penthouse that will be used frequently, then he must build a second story so that the level of the new roof will be at least 4.50 cubits (2.25 meters) above the level of (A)'s roof; the

(B) MUST HAVE A SECOND STORY,
OR BUILD ONE IF HE WANTS A PENTHOUSE.
MINIMUM DISTANCE BETWEEN TWO ROOFS IS ABOUT 2.25 m.



(B) MUST BUILD A PARAPET
IF HE BUILDS A PENTHOUSE.

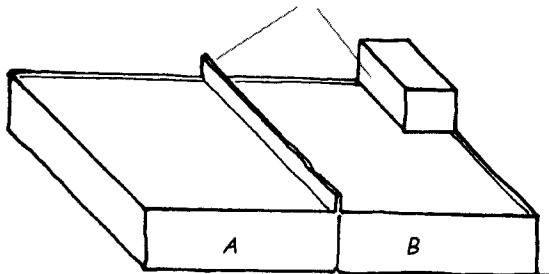


Figure 14 (a) When an existing building (A) has a penthouse, and the adjacent neighbor (B) proposes to build one (Hex. 37); **(b)** when an existing building (A) does not have a penthouse, and the adjacent neighbor (B) proposes to build one (Hex. 38)

difference in the heights of the two roofs would thus be sufficient to prevent any potential conflict (Figure 14a). However, if (A) does not have a penthouse, (B) can build one on his roof, even if it is at the same level as (A)'s roof, provided he also builds a parapet wall at least 3 cubits (1.50 meters) high separating the two roofs. Should (A) in the future wish to add a penthouse, he must then reimburse (B) one-half the cost of the parapet wall (Figure 14b).

Condominiums in Multistory Buildings

Julian addresses issues that confront owners of condominiums in multistory buildings of two, three, or more stories. They include issues surrounding distribution of construction costs of a new building among a number of individuals (Hex. 40 and 42), the use of roof terraces by those who do not own them (Hex. 39), the method of dividing the cost of repairs to the main entrance vestibule (Hex. 41), walls (Hex. 44), and public porticoes that are a part of multistory struc-

tures (Hex. 43). Catherine Saliou illustrates the stipulations in the case on *house building* (Hex. 40).⁶¹ She demonstrates how the construction costs of a hypothetical building, described by Julian, are divided among the owners of each floor. Another illustration speculates on the construction details of the joints between walls and floors.⁶² This case also establishes parties responsible for different parts of the building during the initial construction and for future maintenance and repairs. For example, maintenance of the exterior wall is the responsibility of the owner of the condominium enclosed by that portion of the wall. If a portion of the wall belonging to the lower condominium requires repair, then the owners of the upper floors have to arrange for their part of the wall to be supported on piles while the lower portion is repaired or rebuilt.

The case of *roof terraces* (Hex. 39) addresses their use by residents who are not the owners but who have access to them. A rental fee is paid to the owner depending on the use: for example, if the terrace is used for drying clothes or cooling bread, then the renter must pay the owner the equivalent of one-third the cost of the terrace. If, however, the residents will use the terrace for sleeping during the summer, then the payment is one-half its cost. The case also stipulates that if the top floor is smaller than the lower floors and has access to the roof of a lower condominium, and the owner of the top floor wants to pave, with marble slabs, the terrace that belongs to the lower floor, then he is also responsible for the cost of adding braces to strengthen the beams that will carry the extra weight.

Should the *entrance and the walls of the vestibule hall require repair* (Hex. 41), Julian stipulates that the owner of the adjacent condominium must pay one-half of the cost of repairs. The others must pay in proportion to the number of inhabitants in their apartments, and/or in conformance to any damage they have caused to the entrance and vestibule.

In the case titled *concerning stories* (Hex. 42), we find detailed stipulations regarding the apportionment of expenses for constructing a new multistory condominium and for its repairs during the life cycle of the building. Julian stipulates the same proportions as allocated in Hex. 40. However, when the building requires reconstruction due to its dilapidation, then the owner of each apartment is responsible for building his story up to the upper level, including the connection to it. If it is only the owner of the ground-level condominium who has to undertake repairs (presumably in his exterior and interior load-bearing walls), three approaches regarding cost sharing are mentioned by Julian: the custom in Caesarea Maritima is that each owner is responsible for the repairs to his apartment; the custom in Ascalon is that the owners who are vertically contiguous

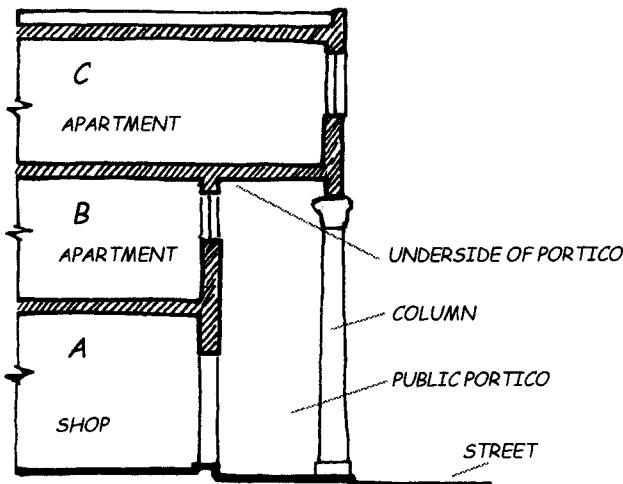


Figure 15 Julian's treatise apportions the expense of maintaining a shared public portico among owners (A), (B), and (C) (Hex. 43).

must divide the cost equally between them; and Julian's preference (which he describes as a middle-of-the-road solution) is for owner of the lower unit to pay two-thirds of the cost and the upper neighbor one-third.

If the uppermost story under a flat roof requires repairs, its owner must cover the entire cost, but those residents who share his flat roof must assist him in the construction, for example in replacing and nailing the planks. Julian concludes this case by reminding the owners that they have the right to use all shared and individually owned porticos (arcades) that are contiguous with their apartments, up to the center line of the walls that divide their apartment from their neighbor's. Julian also addresses the problem of cost sharing among neighbors who are horizontally contiguous.⁶³

The last case in this series (Hex. 43) addresses *repairs needed to public porticos* (arcades) that are contiguous with or located under apartments and provide covered access to shops on the ground level. The primary focus is on repairs of columns and epistyles (a column's upper crossbeam). The allocation of cost sharing is based on who benefits the most from the portico (Figure 15). Owners of shops on the ground level (A) should pay half, because porticos accommodate their customers; owners on level (C) should pay the other half, because their apartments sit on the columns. In this configuration, owners on level (B) are exempt from any contribution to the cost of repairs since they do not benefit from the portico, and furthermore, it reduces their access to natural light. If, however, the portico requires repairs to its underside, then the owners on level (A) pay half the cost, owners on level (B) pay one-sixth because the portico shel-

ters their apartments from the rain, and the owners on level (C) pay the remaining one-third. The public treasury pays for the cost of repairing or replacing columns damaged at their capitals, bases, or foundation stones.⁶⁴

Rules for Houses and Condominiums Derived from Julian's Case Studies

1. Acts of construction and/or changes in land or building use that would negatively impact adjacent properties by debasing their use or value must comply with stipulations designed to prevent such damages. These stipulations are based on one or more of the following considerations: setback requirements, maintaining the structural integrity of the building, and maintaining the initial level of traffic between the public and private realms.
2. In principle, it is allowed to build adjacent to or abutting an existing wall belonging to another owner, provided certain stipulations, designed to address three potential situations, are observed: first, when excavating near an existing wall, where the foundation footings for a new wall are adjacent to the existing wall; second, when proposing to abut the existing wall for structural purposes, and how the expenses shall be equitably shared; and third, when two existing buildings of the same height abut each other and one of the owners wishes to build a penthouse on his roof.
3. Ownership rights and responsibilities of condominiums in multistory buildings address issues of initial and life-cycle construction costs; repairs of load-bearing walls, entrance vestibules, and public porticos that are part of a building; and use of roof terraces by residents who do not own them. Specific stipulations for each of those conditions are included.⁶⁵

Drainage

In compact built environments such as sixth-century Ascalon, drainage of rain and waste water requires careful handling to avoid damage to foundations and to prevent health hazards.⁶⁶ In his attempt to classify his treatise according to the four elements of fire, air, water, and earth, Julian addressed such problems under the category of water in two subcategories: drainage of rainwater and drainage of waste water.

Drainage of Rainwater

This category deals with the *laying out of pipes for drainage* (Hex. 75), and assumes an existing building (A) adjacent to a vacant lot (B). The wall of the building that faces the lot has small windows and a rainwater pipe that drains onto lot

(B). The horizontal part of the pipe on the ground should be 3.33 cubits (1.66 meters) from the wall. The owner of (A) is allowed access to the vacant lot to repair his rainwater pipe and/or windows. The owner of lot (B) should allocate the necessary setback from (A)'s wall for any planting that he undertakes. The setback requirements are stipulated in a case discussed below under Planting (Hex. 87). However, in the event that the owner of (B) wants to build on his property, he should then set back from (A)'s wall by 3.33 cubits (1.66 meters) (refer to cases Hex. 35 and Hex. 36). This would enable the owner of (A) to reconfigure the horizontal segment of his rainwater drainage pipe within the setback space so that no damages will occur to his wall.

In the following two cases (Hex. 76 and 77), Julian addresses changes that the owner of (B) might initiate. If there is a building or a wall (A) next to land belonging to owner (B) (Hex. 76), and the owner of (B) wants to *lay out water supply and/or drainage pipes* on his land, then he must set back from (A)'s building or wall by 1 cubit (.5 meter). However, if there is no building or wall and if the property is a field, then the owner of (B) does not have to observe the setback and is free to design the layout of his pipes in any manner he wishes. In the second case (Hex. 77), an owner (B) wants to *build a cistern to collect rainwater* on his property, and there is an existing wall belonging to the adjacent neighbor (A). Owner (B) must then set back his cistern from (A)'s wall by 6.66 cubits (3.33 meters) to ensure that no damage occurs to the wall should the cistern overflow.

Drainage of Waste Water

The first case concerns *constructing latrines and cesspools* (Hex. 78). If (B) wishes to build a latrine or a cesspool on his plot and the facility is enclosed by a stone wall of at least 1 cubit (.5 meter) in thickness, then he should leave a distance of 3.33 cubits (1.66 meters) from neighbor (A)'s wall. If, however, the wall of the latrine or cesspool is built of stone and lined by bronze, then its thickness can be reduced to .5 cubit (.25 meter). For cesspools without walls, the setback from the neighbor's property should be 6.50 cubits (3.25 meters). If neighbor (A)'s property is vacant, then half of the stipulated distances may be observed. A minimum distance between an existing latrine and a proposed one should be 2 cubits (1 meter).

The second case specifies *construction materials for a cesspool or underground sewage channel near a jointly owned wall* (Hex. 79). Should (B) want to build a cesspool or an underground sewage channel adjacent to a jointly owned wall with neighbor (A), then (B) should construct a wall 1.50 cubits (.75 meter) thick with lime for the cesspool or underground sewage channel situated alongside the wall. This stipulation

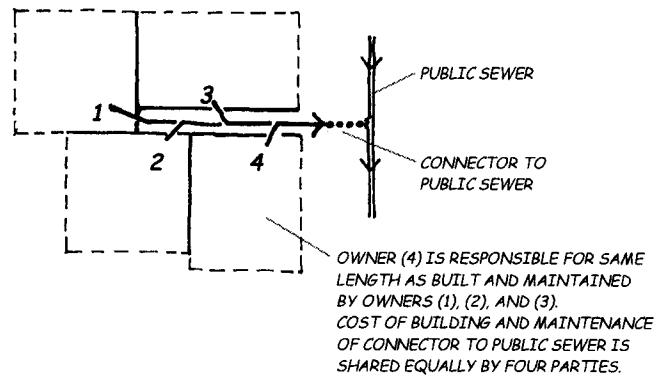


Figure 16 Responsibilities of four parties for constructing or repairing a sewer channel (Hex. 80)

ensures that damage will not occur to the jointly owned wall.

The third case concerns *responsibilities and procedure for constructing or maintaining a sewer channel used by a number of parties* (Hex. 80). Julian stipulates the distribution of responsibilities among a number of owners who will share a privately constructed sewer channel from its inception at each house to its connection to the public sewer line. The requirement for the initial construction of the channel and for its maintenance and repairs are the same. Each owner is responsible for the cost and maintenance of the channel from its inception at his house to its connection to the channel emerging from the next house in line (Figure 16). The last owner (4 on the diagram) is responsible for a length equivalent to the average constructed by parties 1, 2, and 3. The cost and maintenance of the remaining length of sewer channel to the public sewer is divided equally among the parties.

The last case addresses the *drawing of a cesspool located aboveground* (Hex. 82). If (A) has an aboveground cesspool, it should be drained or accessed for cleaning from (A)'s property. In the event that (A) has a legal right in the form of a servitude that permits his cesspool to drain onto neighbor (B)'s property, and (B)'s property is damaged in the process, then (A) is responsible for paying double the cost of damages to (B). The principle underlying these stipulations also applies to the drainage and collection of rainwater in cisterns. Waste-water drainage from houses is not allowed onto a public street, square, or portico, or to any part of the town or village, as this will create harm to the passersby.

Rules for Drainage Derived from Julian's Case Studies

1. Drainage issues are viewed in two distinct categories: rainwater and waste water.

2. Damages to a neighbor's adjacent building or wall from the drainage of rain or waste water, or due to the collection of rainwater in a cistern, should be avoided and are subject to stipulations designed to prevent potential damages.
3. The absence of a neighboring building or wall allows complete freedom for the layout of water supply and/or drainage pipes on one's property.
4. The use of certain construction materials and techniques could compensate for setback stipulations from a neighbor's building or wall to prevent potential damages due to the construction of latrines and cesspools, resulting in a more efficient use of the property.
5. The responsibility for constructing and maintaining sewer channels is divided equitably among the owners.
6. Waste water is not allowed to drain from private properties onto any part of the public realm.

Planting

The first case explains problems and *potential damages to nearby buildings and facilities caused by trees and shrubs* (Hex. 86).⁶⁷ The roots of trees spread toward walls and houses and can seriously damage underground waterlines and wall footings. Trees can also damage vineyards and facilitate access for burglars to upper-level windows. For all these reasons the following *setbacks must be observed from a neighboring house*: for (B) from an existing house (A), 3.33 cubits (1.66 meters) for shrubs, 6.5 cubits (3.25 meters) for vineyards, 10 cubits (5 meters) for apple, pomegranate, or other trees similar in size, and 20 cubits (10 meters) for fig, sycamore, Lombardy poplar, or other trees similar in size; no setback is necessary for vegetation not requiring deep planting, such as ivy, rosebush, or similar species (Hex. 87).⁶⁸

The last case addresses the situation when (B) wants to *till and irrigate his land for crops* (Hex. 88). He can do so, provided he observes a setback of 3.33 cubits (1.66 meters) from an adjacent existing building. However, if (B) has full-grown trees on his unimproved lot, and if he wishes to build a house, then the setback stipulations related to plant type do not legally apply, because he is building for himself, and it becomes his responsibility to decide the distances to protect his own house from any damages that might occur from plants on his property.

Rules for Planting Derived from Julian's Case Studies

1. In principle, a property owner is allowed to plant what he wishes within his property boundaries, provided such planting will not cause future damage to adjacent properties.
2. Setback requirements are stipulated for plant types, based on

the principle that plants with longer roots, particularly trees, require larger distances from existing adjacent buildings.

Conclusions

The underlying goal, intentions, and design rules comprise the essence of Julian of Ascalon's treatise. It should be noted that Julian also provided for situations not directly covered by any of these design rules: "All of the above are guiding principles, and should an unforeseen problem arise which I have not addressed in my text, then it should be resolved by using analogous resolutions."⁶⁹

I have drawn five general conclusions from studying Julian's treatise:

1) *Stimulus for creating the treatise and significance of its author's skills.* The treatise seems to have been inspired by stimulus from Constantinople, where Emperor Justinian was undertaking major legal projects for the empire. This confirms the conclusion that commitment and encouragement from the highest governing authorities will motivate individuals to take their own initiative to participate in those efforts. Julian seems to have composed his treatise in conformity with Justinian's broader project, using his skills and insights as an architect—an important fact, given that most legal stipulations related to building design and construction before and after Julian were not composed by architects.

2) *Intentions and their impact on the structure of the treatise.* In composing his treatise, Julian addressed an important and central concern of law, that is, the intent underlying the stipulations in his treatise. To deal with this question, he invoked the work of ancient Greek philosophers. He used Empedocles' philosophy of four eternal roots: fire, air, water, and earth. Yet, because Julian's knowledge and comprehension of Empedocles' work was most likely incomplete, he did not refer to the underlying mechanism of Love and Strife that affects the intermingling of those roots when he articulated the intentions for his treatise.

3) *Maintaining equitability in the face of change.* This was one of Julian's central concerns in formulating the stipulations of his treatise. It is still a primary concern and should continue to be so in societies that value equitability. The threat to the built environment is caused by damage to one party by another's acts. Thus, changes in the built environment must be tempered to prevent or at least moderate such damage.

4) *Aspects of the built environment addressed by the treatise.* Land use, views, houses and condominiums, drainage, and planting constitute aspects of the normal uses of land and buildings related to economic activities and habitation that may also lead to conflicts due to incompatible adjacent uses. The question of views, particularly views of the sea, was important in

Greek culture. People in Palestine during the Byzantine period shared the value of preserving such views. Thus, land use and views were the two significant aspects that impacted local conditions of urban design and architecture.

Julian's treatise does not address issues related to the design of public buildings; it concentrates on the private realm. Julian deals with two types of housing stock prevalent in Ascalon: the single- or two-story house owned by one person or family, and the condominium multistory building, where each apartment was owned by an individual or family. Julian examines economic issues related to potential uses that might debase the value of adjacent or nearby properties, and ownership rights of walls between neighbors. Both concerns were of paramount importance to the people of Ascalon and elsewhere; they maintain their universal validity to this day.

Drainage issues relate to rainwater and waste water. Julian's attitude is that water from these two sources should be dealt with according to the source. As for planting within one's property, he considers this to be a positive activity that should be encouraged, but he addresses the potential damages that might result from the roots of plants and trees invading adjacent properties.

5) *Prescription vs. proscription*. This issue is rarely raised in studies of the history of construction codes or laws promulgated for construction or urban development. Yet the distinction between prescriptive and proscriptive stipulations has profound implications for their use and the outcome they generate in the built environment. Prescription is the laying down of authoritative rules or directions, usually associated with a central administration that has jurisdiction over the area where the rules will be imposed. It is a top-down mechanism designed by officials who may or may not be familiar with the area in question. Such stipulations, by their very nature, dictate absolute solutions to a problem regardless of the local conditions.

Proscriptive rules, on the other hand, tend to allow freedom of action and initiative within a framework of prohibitions—for example, the freedom to make changes to one's property provided no damage is inflicted on a neighbor. Due to their flexible framework, prescriptive codes tend to evolve over long periods of time and rely on accumulated experience. They are in part associated with customary laws, and the prohibitions they assume tend to overlap with the predominant (largely religious) value and ethical system of the community. Due to the community roots of prescriptive rules, they need to be viewed as a bottom-up system of self-regulation, and thus democratic in spirit.

Most of the stipulations in Julian's treatise are prescriptive, some more so than others. This is a major differ-

ence from earlier Roman laws on the built environment, which were more prescriptive. Jewish law during Julian's period also tended to be prescriptive, due to its embodiment of ethical intentions.

It is over fourteen centuries since the time of Julian's treatise. Despite its rigid prescriptive nature, we find that its influence survived well into the first decades of the twentieth century, within the former Byzantine cultural sphere. This longevity is not necessarily due to the adaptability of the treatise to changing conditions in various periods and geographic locations, but rather to the importance attached to the continuity of certain Byzantine traditions that persisted well into the long period of Ottoman rule. Nevertheless, Julian's treatise is more than a regional document. As demonstrated in this study, it provides us with numerous lessons about building and urban codes in general, as well as with insights into the nature of those codes.

Notes

I would like to thank the individuals who translated various critical sources into English: Caterina Basba from Greek; Boris Iundin and Kirill Sereda from Russian; David Powers for arranging a translation from Hebrew. Thanks to Catherine Saliou for clarifying, by correspondence, aspects of her work related to Julian of Ascalon's treatise. I am also very grateful to the following libraries for the rare sources essential for this study: in London, The British Library, Library of the Institute of Classical Studies, University of London Library, University College Library; in Athens, the Gennadion Library; in Geneva, Bibliothèque Publique et Universitaire; in Albuquerque, University of New Mexico Library system, and particularly Randall Moorehead.

Individuals who introduced me to the treatise of Julian of Ascalon are acknowledged in my review of Catherine Saliou, *Le traité* (see n. 16), in the *Journal of Roman Archaeology* 11 (1998): 680–682.

This study is dedicated to my sister Fayha and my brother Wisam.

1. For a history of Ascalon, see W. J. Phythian-Adams, "History of Askalon" in *Palestine Exploration Fund*, Quarterly Statement, April 1921, 76–90; see also the article "Askalan" in *Encyclopedia of Islam*, new ed. (1960), 1: 710–711, and the article "Ashkelon" in *New Encyclopedia of Archaeological Excavations in the Holy Land*, ed. E. Stern (New York, 1993), 1: 103–112.

2. *Encyclopaedia Britannica*, CD-ROM, 1998 standard edition, s.v. "Ashkelon."

3. Alexander P. Kazhdan, ed., *The Oxford Dictionary of Byzantium*, 3 vols. (New York and London, 1991), article "Palestine," 3: 1563–1564. The following quote clarifies the special place of Palestine in the eyes of Emperor Justinian I: "We are aware that Palestine is inhabited by a great and estimable people, and forms no inconsiderable part of Our Empire, both because of the amount of taxes which it pays, and by reason of its exceeding loyalty; that it includes cities of great renown; produces good citizens versed in all kinds of knowledge, as well as eminent among the priesthood; and that, finally (which is more important than everything else), Our Lord Jesus Christ, . . . redeemed us in Palestine"; the Justinian Novel Title 4

- within the Eighth Collection, from S. P. Scott, ed. and trans., *Corpus Juris Civilis (The Civil Law)*, 17 vols. in 7 books (Cincinnati, 1932; reprinted, New York, 1973), 17: 12–13.
4. Mikhail J. Sjuzumov, “O traktate Juliana Askalonita” (From the treatise of Julian of Ascalon), *Anticnaja Drevnosti Srednjeg Veka* 1 (1960): 3–34 (in Russian), 3.
 5. Averil Cameron, *The Mediterranean World in Late Antiquity* (London, 1993), 182.
 6. Georges Tate, *Les campagnes de la Syrie du nord I*, Institut Français d’Archéologie du Proche-Orient, Bibliothèque Archéologique et Historique, 133 (Paris, 1992), quoted by Clive Foss in “The Near Eastern countryside in late antiquity: a review article,” *Journal of Roman Archaeology*, supplementary ser., 14 (1995): 218–219.
 7. Hugh Kennedy, “From Polis to Madina: Urban Change in Late Antique and Early Islamic Syria,” *Past & Present* 106 (February 1985): 23.
 8. Sjuzumov, “O traktate,” 4.
 9. Kennedy, “Polis to Madina,” 23, quoting Jones.
 10. Sjuzumov, “O traktate,” 5.
 11. Hugh Kennedy, “From Antiquity to Islam in the Cities of al-Andalus and al-Mashriq,” handout of lecture delivered at Massachusetts Institute of Technology, Cambridge, Mass., 9 October 1996.
 12. The Arabs referred to Ascalon, and sometimes to Damascus, as “the bride of al-Sham” (i.e., greater Syria); one of the Prophet’s companions, Abdullah bin Omar, said: “There is a pinnacle for everything, and the pinnacle for al-Sham is Askalan”; cited by Yaqut al-Hamawi (d. A.D. 1228), entry on “Askalan,” in his *Mujam al-Buldan* (Dictionary of cities and towns) (Beirut, 1979), 4: 122.
 13. Mosaics discovered in 1986 at the eighth-century Church of Saint Stephen at Umm al-Rasas, Jordan, depict images of numerous cities, including Ascalon and Gaza. Images of the latter two cities show buildings of three and four stories. Figure 4 is from a colored reproduction of this mosaic in R. G. Khouri, “Mosaic Country,” *Aramco World* 38, no. 1 (1987): 34–40.
 14. This assumes that the population in Ascalon was about 15,000 people. If most of the housing stock was in two-story structures, then the estimate would yield a net density of approximately eight persons per two-story house, which is not unreasonable for walled cities during that period. It is also possible to assume a density of sixteen persons per four-story structure. The footprint of a typical building designed for housing is based on a dimension of 15 x 15 meters, and the net density is calculated by allocating 80 percent to the footprint of the buildings and 20 percent for access, that is, for streets and cul-de-sacs. In comparison, Caesarea, the capital, was 2.25 times larger in area than Ascalon during the mid sixth century. It also had a semicircular plan, with a north/south axis of about 1,500 m and an east/west axis of 900 m. The area within the walls was about 127 hectares (314 acres).
 15. Sjuzumov, “O traktate,” 3 (see n. 4).
 16. Catherine Saliou, *Le traité d’urbanisme de Julian d’Ascalon: Droit et architecture en Palestine au VI siècle* (Paris, 1996), 32. The French rendition of the treatise title is: “Tiré de l’écrit de Julien d’Ascalon, architecte: extrait des lois, ou coutumes, en usage en Palestine” (Drawn from the writing of architect Julian of Ascalon: extract of laws and customs used in Palestine).
 17. Sjuzumov, “O traktate,” 3 (see n. 4), referring to the work of G. Tchalenko, *Villages antiques de la Syrie du Nord*, vols. 1–3 (1955–1959), 1: 109.
 18. Joseph Geiger, “Julian of Ascalon,” *Journal of Hellenic Studies* 112 (1992): 31–43. See p. 41 and notes 68 and 69 concerning Geiger’s views that if the connection with the church builder Julian in northern Syria can be firmly established, then both Julians would be Christians. See p. 42 for information on Ascalon as a cultural center. Geiger refers to his article written in Hebrew, whose title he translates as “Greek intellectuals from Ascalon,” *Cathedra* 60 (1991): 5–16.
 19. Geiger, “Julian,” 42.
 20. Anton Heinen, “The role of Palestine in the transmission of the exact sciences from Hellenistic to Arab culture,” in the proceedings of *The Third International Conference on Bilad al-Sham: Palestine, 19–24 April 1980*, vol. 2, *Geography and Civilization of Palestine* (Amman, 1984), 61–68.
 21. Contardo Ferrini, “Gli estratti di Giuliano Askalonita” (Extracts from Julian of Ascalon), *Rendiconti Istituto Lombardo II*, 35 (1902): 613–622. Republished in *Opere di Contardo Ferrini I* (Milan, 1929), 443–452. The author argues that the dating of the composition of Julian’s treatise must be before the publication of Justinian’s *Digest* and revised Codes. The other view, by Scheltema, argues for a post-Justinian date, in H. J. Scheltema “The nomoi of Julianus of Ascalon,” *Symbolae ad Jus et Historiam Antiquitatis Pertinentes Julio Christiano van Oyen Dedicatae* (Leiden, 1946), 349–360. Geiger, “Julian,” 41, settles for the treatise’s composition within the dates of September A.D. 531 and December A.D. 533, and he is supported by N. van der Wal and J.H.A. Lokin, *Historiae juris Graeco-romani delineatio: Les sources du droit byzantin de 300 à 1453* (Groningen, 1985). Sjuzumov, “O traktate,” 6 (see n. 4), dates it to post-October A.D. 548.
 22. For a brief history of the Beirut law school, see the article by Shereen Khairallah, “The School of Law at Beirut,” in Ihsan Abbas, Shereen Khairallah, and Ali Z. Shakir, eds., *Studies in History and Literature in Honour of Nicola A. Ziadeh* (London, 1992), 9–15. Khairallah frequently cites the study by Paul Collinet, *Histoire de l’École de Droit de Beyrouth* (Paris, 1925).
 23. Code of Justinian (C. 11. 21. 1): “We decree that the city of Berytus, already renowned for its admirable qualities, . . .” from Scott, ed., *Corpus* (see n. 3), and from the introduction titled “The Whole Body of Law” in Alan Watson, ed. and trans., *The Digest of Justinian*, 2 vols. (Philadelphia, 1985; revised ed., 1998), 1, para. 7: “. . . in the most excellent civitas of Berytus, which might well be called the nurse of the law . . .” See also ibid., “The Confirmation of the Digest,” para. 9.
 24. “If you wish to do this . . . , then you must observe this . . .”; briefly discussed in William W. Hallo, *Origins: The Ancient Near Eastern Background of Some Modern Western Institutions* (Leiden, 1996), 245.
 25. Ibid., 247.
 26. See the detailed study by Raymond Westbrook, “The Nature and Origins of the Twelve Tables,” *Zeitschrift der Savigny Stiftung für Rechtsgeschichte* 105 (1988): 74–121.
 27. Proscription is an imposed restraint synonymous with prohibition, as in “Thou shalt not,” whereas prescription is the laying down of authoritative rules or directions, as in “Thou shalt.” The former allows innovative solutions to occur in response to a local problem within the framework of prohibitions; the latter dictates solutions to a problem regardless of the conditions in a locality.
 28. Alan Rodger, *Owners and Neighbours in Roman Law* (Oxford, 1972), for a detailed analysis of this condition.
 29. Adolf Berger, “Encyclopedic Dictionary of Roman Law,” *Transactions of the American Philosophical Society*, vol. 43, part 2 (1953), 333–808, 702; a servitude is a form of easement. “Servitudes were classified among *iura in re aliena* (i.e., rights over another’s property). This right was vested in the beneficiary not as a personal one, but as a right attached to the immovable (land or building) itself, regardless of the person who actually happened to own it.” For a detailed analysis and discussion of the workings of the *altius tollendi* and *altius non tollendi*, see Rodger, *Owners*, 32.
 30. Zeno’s laws were addressed to the prefect of Constantinople. They contained detailed stipulations regarding the construction of balconies, either made of wood planks or of the “Roman style.” Those were recorded in the

Code of Justinian (C. 8. 10. 11) and (C. 8. 10. 12. 5). For a French rendition, see Catherine Saliou's article: "La maison urbaine en Syrie aux époques Romaine et Byzantine d'après la documentation juridique," in *Les maisons dans la Syrie antique du III millénaire aux débuts de l'Islam*, Institut Français d'Archéologie du Proche-Orient (Beirut, 1997), 313–327.

31. Code of Justinian (C. 8. 10. 13), translated in Scott, *Corpus* (see n. 3), and mentioned by Sjuzumov, "O traktate," 6 (see n. 4).

32. Sjuzumov, "O traktate" (see n. 4), suggests that Julian, although from Ascalon, was in Constantinople in A.D. 548, and was sent back to Palestine with a delegation of *de discussoribus* (inspectors) and asked to write a treatise about building rules for the cities of Palestine. This hypothesis is not mentioned by other scholars familiar with the treatise of Julian of Ascalon; they argue that Emperor Justinian I forbade reference to sources before his *Corpus Juris Civilis* effective 30 December A.D. 533 or very shortly thereafter, as indicated in para. 19 of the "Confirmation of the Digest" in Watson, *Digest* (see n. 23). Julian, on the other hand, mentions earlier sources in his treatise. *De discussoribus* is a form of the term *discisor* that is mentioned in the Code of Justinian 10.30 (Concerning Assessors). In Berger, "Dictionary," 438 (see n. 29), *discisor* is defined as "an official in the later Empire who verified the accounts of expenditures for public buildings and the records connected with tax administration."

33. Constantinos Armenopoulos, *Manual of Laws or the Hexabiblos*, ed. Gustav Ernst Heimbach (Leipzig, 1851 [in Greek and Latin]; reprint ed., Darmstadt, 1969). This *Hexabiblos* (Six books), a handbook of laws from fourteenth-century Thessaloniki, is discussed in this article under the sub-head "Diffusion of the Treatise." The stipulations in Julian's treatise are cross-referenced by the numbers given in Book 2, part 4, of the *Hexabiblos* as Hex. followed by the number of the case—for example, Hex. 51, etc. Since the fourteenth century, Julian's stipulations have been known primarily through this handbook.

34. *The Syro-Roman Lawbook*, trans. Arthur Voobus, Papers of the Estonian Theological Society in Exile, no. 39 (Stockholm, 1983), 60. In addition to this English translation, see the four volumes by A. Voobus, *The Synodicon in the West Syrian Tradition* (Louvain, 1975–1976).

35. One reason for this similarity is the underlying force of customary law throughout the Near East. A study of similarities and differences between these two sources is necessary and would yield additional insights into Julian of Ascalon's treatise. Another useful study would be to trace the origins of some of the stipulations in Julian's treatise to ancient Greek and Roman laws. E. J. Owens included an appendix titled "Town planning and the law" in his book *The City in the Greek and Roman World* (London, 1991), 166–170, where he mentions that the laws addressed three areas: the relationship between state and individual and the responsibility of the individual to the community; relations between individuals and their neighbors; and ensuring the general health and well-being of citizens as well as the overall maintenance of the city and its services. Julian's treatise clearly deals with the second category of these relationships. Owens also cites numerous examples, such as, "at Athens, Hippias taxed overhanging balconies, and doors and shutters which opened outward on to the road" and, "in Rome laws established a minimum width of 2.90 m for urban streets precisely to allow for overhanging balconies."

In an earlier study by E. J. Owens, "The Koprologoi at Athens in the fifth and fourth centuries B.C.," *Classical Quarterly* 33, no. 1 (1983): 44–50, the author indicates that laws from Piraeus and Pergamon were designed to keep streets passable, to protect adjacent buildings, and to safeguard pedestrians. In the astynomic law at Pergamon, the removal of rubbish from streets was the responsibility of individual property owners and was privately organized. Householders were responsible for the cleanliness of the streets outside their property and up to a certain distance on either side.

Another example is a law from Gortyn, on the island of Crete, which forbade the location of ovens and dung heaps within a certain distance of houses; a minimum distance of 10 feet is indicated.

36. The popularity of these two terms must date back to the well-known German study by L. Mitteis, *Reichsrecht und Volksrecht in den östlichen Provinzen des römischen Kaiserreichs* (Imperial and customary laws in the eastern provinces of the Roman empire) (Leipzig, 1891). I use the terms to refer to imperial laws or decrees (*Reichsrecht*), and to customary laws (*Volksrecht*).

37. In Berger, "Dictionary," 424 (see n. 29), the term is defined as "a damage not yet done but threatening one's property by the defective state of a neighbor's property." Another, related statute concerned with the damage done to another's property is the *Lex Aquilia*, which sets general rules of liability for damage; Watson, *Digest*, 9.2 (see n. 23), and defined in Berger, 547–548. Thus, for example, the loss inflicted on the owner must be the result of a wrongful act (*damnum iniuria datum*). The original provisions of the *Lex Aquilia* were extended and became the *Actio legis Aquiliae*; according to one of its characteristic features, a defendant who denied his liability had to pay double damages if condemned. The stipulation of paying double damages is used by Julian in the case relating to an owner (A) who has a servitude to access and clean his cesspool from the neighbor (B)'s property. However, should damage occur to (B)'s property, then (A) has to pay (B) double the cost of those damages (Hex. 82).

38. Saul Lieberman, title translated from Hebrew (Something about Julian of Ascalon's book—the law, Palestine and its customs), in *Tabriz* 40 (Jerusalem, 1971), 409–417.

39. Ibid., 411.

40. Ibid., 410, 416.

41. The eparch of Constantinople was the governor of the city, successor of the late Roman urban prefect. He was considered supreme judge in the capital and its vicinity, second only to the emperor, and was the chief of police responsible for order, decoration, and ceremonial events in the capital. As head of the city police he had jurisdiction over prisons. His other functions included the control of commercial and industrial activities in the capital; Kazhdan, ed., *Dictionary of Byzantium*, 1: 705 (see n. 3).

42. Heimbach, ed., *Hexabiblos*. This is the most accessible current edition, reprinted in 1969.

43. Kazhdan, ed., *Dictionary of Byzantium*, 2: 902 (see n. 3).

44. The *Hexabiblos* was compiled in 1345, but it was not until the mid-1700s that its influence began to spread in Greece and the Balkan countries, lasting in the former until about the 1940s. From N. J. Pantazopoulos, *Church and Law in the Balkan Peninsula during the Ottoman Rule* (Thessaloniki, 1967).

45. This is a direct translation from Sjuzumov, "O traktate," 18 (see n. 4). Words in brackets were added by Sjuzumov to further explain Julian's intentions.

46. Saliou, *Le traité* (see n. 16), added the missing headings to her translation of the treatise. She also added a fifth heading, Views. The actual cases, according to their numbering in the *Hexabiblos* of Armenopoulos and their sequence in Genevensis 23, are as follows: Fire: *Hexabiblos* 2.4: 13–22; Air: 23, 25–44; Water: 75–80, 82; Earth: 83, 85–88. The balance of the cases, according to their sequence in Genevensis 23, relate to "views": *Hexabiblos* 2.4: 47–51. Armenopoulos added stipulations from other sources and mixed them with Julian's, which explains why some numbers are missing.

47. The information in this discussion is derived from two sources: M. R. Wright, ed., *Empedocles: The Extant Fragments* (New Haven, 1981), and from various articles in *Encyclopaedia Britannica* (see n. 2).

48. I use the term *equitable equilibrium* to mean that the built environment needs to reach a state of equilibrium at any point in time, but it does so only when all concerned parties are equitably treated in the process.

49. The roots of the concept of Love and Strife might be traced back to the doctrines of Zoroaster, the Iranian religious reformer (628–551 b.c.). The ancient Greeks saw in Zoroastrianism the archetype of the dualistic view of the world and of human destiny. Zoroaster is known to have instructed Pythagoras (580–500 b.c.) in Babylon. The latter's philosophy includes a set of ten pairs of contrary qualities. I believe three of these relate to certain aspects of Love and Strife: they are Good vs. Evil, Unity vs. Plurality, and At Rest vs. In Motion. Empedocles was a pupil of Pythagoras; he was also influenced by the ideas of Heraclitus (540–480 b.c.), who argued for the need for people to live in social harmony. Heraclitus's interpretation of the *logos* (reason, in Greek) is the underlying connection between opposites that define each other, such as health and disease, good and evil, and hot and cold. Essentially, his philosophy is based on the notion of a dynamic equilibrium that maintains an orderly balance in the world, a persistence of unity despite change. (This synthesis is based on sources in *Encyclopaedia Britannica* [see n. 2]).

50. Saliou, *Le traité* (see n. 16).

51. There are fourteen cases related to land use in the *Hexabiblos*. On baths and artisanal workshops, see Hex. 2.4: 13–22; on socially offensive uses, see Hex. 2.4: 23 and 25–27.

52. For definitions of *proscriptive* and *prescriptive*, see n. 27.

53. For a detailed discussion of brothels in Palestine during the Byzantine period, see Claudine Dauphine, "Brothels, Baths and Babes: Prostitution in the Byzantine Holy Land," *Classics Ireland* 3 (1996): 47–72.

54. In Hex. 18, Julian mentions that smoke dissipates at a distance of 6.5 cubits.

55. There are seven cases related to views in the *Hexabiblos*. On views for enjoyment, see Hex. 2.4: 47–49 and 51; for views as nuisance, see Hex. 2.4: 50, 33 (window openings), and 32 (balcony construction).

56. Emperor Zeno's (A.D. 474–491) laws regarding this issue can be found in the Code of Justinian (C. 8. 10. 12. 2a) and (C. 8. 10. 12. 4), as cited and discussed in Rodger, *Owners*, 35, 129, 132–140 (see n. 28).

57. Rodger, *Owners*, 134–140 (see n. 28). Aemilius Papinianus (A.D. 140–212) was a Roman jurist who posthumously became the definitive authority on Roman law, possibly because his moral highmindedness was congenial to the world view of the Christian rulers of the postclassical empire; *Encyclopaedia Britannica*, 1998 ed., s.v. "Papinian" (see n. 2).

58. Julian provides two examples of public paintings of significance: a painting of Achilles and one of Ajax. The former is "the principal Greek hero of the *Iliad*, and his popularity was retained well beyond late antiquity. This popularity can be explained by the search for the ideal warrior"; "Achilles," in Kazhdan, ed., *Dictionary of Byzantium*, 13–14 (see n. 3). Ajax was, "next to Achilles, the bravest of all Greeks in the Trojan war"; "Ajax," in Lemprière's *Classical Dictionary of Proper Names mentioned in Ancient Authors Writ Large*, 3rd ed. (London, 1984), 26. It is clear that heroes from Greek

mythology continued to be admired in Ascalon during the sixth century, despite the fact that a large portion of the population was Christian.

59. There are seventeen cases related to houses and condominiums in the *Hexabiblos*. On acts that could debase the value of adjacent properties, see Hex. 2.4: 28–31; on walls between neighbors, see Hex. 2.4: 34–38 and 83, 85; on condominiums in multistory buildings and those contiguous with porticoes, see Hex. 2.4: 39–44.

60. I am assuming that in this case (A) has to rechannel the rainwater spouts within the setback in such a way that his wall will not be damaged.

61. Saliou, *Le traité* (see n. 16), figs. 6a and 7.

62. Ibid., fig. 6b.

63. In this case (Hex. 44), it is difficult to envision the configuration described by Julian, whether in Sjuzumov or Armenopoulos. Saliou's attempt to configure this case in figure 10 of *Le traité* (see n. 16) is neither clear nor convincing.

64. Although Julian does not provide the reason for the public treasury's involvement, one might assume that the columns were originally provided by, or paid for by, the public treasury.

65. Condominium buildings of two, three, or more stories, where each story was owned by one party, were one of the patterns of tenure in Ascalon and Caesarea, and possibly in other cities of Palestine and the Near East, during the sixth century and earlier.

66. There are seven cases related to drainage in the *Hexabiblos*. On rainwater, see Hex. 2.4: 75, 76 (which also relates to waste water), and 77. On waste water, see Hex. 2.4: 78–80 and 82 (which also applies to rainwater).

67. There are three cases related to planting in the *Hexabiblos*. On trees, shrubs, and other vegetation, see Hex. 2.4: 86–88.

68. The approach based on distances from the boundary has early precedence in ancient Greek law. In 10.1.13 of the *Digest* (Watson, *Digest*; see n. 23), Gaius quotes a law that Solon passed at Athens in the sixth century b.c.: "If a man . . . plants an olive tree or fig tree, nine feet away from the other man's land, other trees five feet away."

69. This quote is from the last paragraph of Julian's treatise, as translated by Sjuzumov, "O traktate," 34 (see n. 4).

Illustration Credits

Figure 1. By author after map in E. Barnavi, ed., *A Historical Atlas of the Jewish People* (London, 1992)

Figures 2, 3. Courtesy Ashkelon Excavations

Figure 4. Courtesy Aramco World

Figure 5. Courtesy Bibliothèque Publique et Universitaire, Geneva

Figures 6–14, 16. Author

Figure 15. By author after Saliou, *Le traité d'urbanisme de Julian d'Ascalon* (Paris, 1996)