ROMAN GERASA SEEN FROM BELOW.
An Alternative Study of Urban Landscape

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Research background
Syntheses of ancient Jarash and its urban spread are based largely on studies of monumental ruins, most of whose visible and imposing remains belong to the Roman and Byzantine eras of the Decapolis city Gerasa. Crowfoot's studies (Crowfoot [1930], [1931], [1938]) drew early attention to the selective reuse of older architectural blocks and entire building units in the construction of the first churches (Crowfoot [1938] 242-3: St John the Baptist’s church). Indeed, excavations from the later 1920s on (see Kraeling [1938]; JAP I [1986], JAP II [1989]) have brought to light that most Roman and later monumental remains of Gerasa contain evidence of spolia, and it seems, increasingly so with time. This trend continued in the Islamic periods, especially after the earthquake of A.D. 749 when public space like streets and public squares were used by the inhabitants for different purposes, indicating the breakdown of previous civic infrastructure. Recent material evidence supports contemporary literary references suggesting that during the Crusades and after the Mamlukes Jarash had been reduced to impoverished improvised occupancies. In the 19th century a Circassian and Chechen colony was settled under Ottoman rule and Jarash revived as a township. The new settlers became the last inheritors of the ancient and then still legal practice of quarrying stones from the ancient ruins (Schumacher [1902] 122f.) for their own constructions: their well-built now ruinous houses still bear witness to the fact.

Continuing with the explorations of Kraeling’s (1938) Gerasa, the history of urban growth has changed relatively little seen in the main through the ruins of public secular and religious monuments which have earned Gerasa the modern attribute 'Pompeii of the East'.1 Overshadowed by these acclaimed monumental ruins, it is easy to consider as insignificant, or worse to ignore the seemingly vacant areas between those standing ruins and main thoroughfares. Yet, these buried lots aligning ancient streets and lanes were once an integral part of urban growth and their intended use, or deliberate non-use would have been part of town planning projects. One may posit in addition, that local populations would have made temporary use of unbuilt civic environs, as it still happens today in Jebel Amman where fortified embassy buildings and small ploughed fields with flocks of sheep and Bedouin tents exist side by side. These apparently insignificant and variable micro-landscapes in the walled city, and what may once have stood in them, must have leant a distinct spatial horizon to the urban and natural landscape of their time, as familiar a view to the contemporary inhabitants of Gerasa as the outstanding monumental complexes. Aerial photos

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1 Seigne challenges some views held by Kraeling (1938) offering new hypotheses on phases and directions of urban growth (Seigne [1992]). His main criticism is that Kraeling relies too much on epigraphic evidence not backed by archaeological proof (Seigne [1992] 331). Instead, he uses in the main new and old architectural evidence to develop his own theories. Recent archaeological finds do not necessarily confirm Seigne’s opinions and in some cases seem to have come full circle in support of Kraeling’s earlier syntheses, e.g. Seigne’s late third-early fourth century date for the city wall (Seigne [1986] 47-59) and Kraeling’s Trajanic date of early the 2nd century (Kraeling [1938] 39ff.; Detweiler [1938] 117-23). Later city walls excavations, see Kehrberg and Manley (2001a, 2002, 2003), have settled the city walls foundations to be not later than Hadrianic.
spanning almost a century (Figs. 1 and 3) show how little has changed on the west half of Gerasa, the now touristic ‘urban park’, and emphasise that focus has not shifted from the visible ruins, leaving most of the less spectacular terrain unexplored. The aerial views demonstrate how repetitively selective the architectural evidence is which has served urban studies of Gerasa until recently.

Events overtook and shaped Gerasa (Hellenistic Antioch on the Chrysorhoas) like any other Decapolis city which not only affected the public monuments but almost certainly altered more than once panoramas in many places. We are witness to and responsible for the latest changes of western Gerasa's intermonumental artificial landscapes: They have been and are being brought about by substantial spoil heaps from large-scale excavations and clearance work which has changed the 19th and early 20th century agricultural landscape patterns created by the Ottoman farmers and their descendants (Fig. 1, 1917 views). Archaeology in Gerasa is still mostly limited to a supporting role for restoration projects of Roman and Byzantine monumental ruins and their architectural studies. Most of the ‘intermonumental’ urban space thus remains 'terra incognita' and will continue to be covered with excavated debris. Nearly two centuries of topographical, architectural and archaeological explorations, the first two systematic and extensive by Buckingham and his team of surveyors in 1816 (Buckingham [1821] and in 1893 by Schumacher [1902]), have advanced surprisingly little our knowledge of the complexities of urban space as it was conceived and actually used by the Roman, Byzantine and Islamic population.

Concentration on visible monumental remains and their restoration is also largely responsible for our flawed knowledge of pre-Roman Hellenistic and first century BC/AD Gerasa. Apart from some literary accounts, notably by the 1st century A.D. historian Flavius Josephus (1957 and 1911), and first century epigraphic references (Welles [1938] 371 and e.g. inscr. nos. 1-4; 45-50), until very recently (infra) there has been hardly any material evidence from the second century and little of the first centuries B.C. and A.D. Among other passing references in Kraeling (1938), Fisher and Kraeling comment briefly on pre-Roman occupation at the site of the Artemis temple (1938) 139-148. In the last two decades of the 20th century research on the development of Early Roman Gerasa has relied heavily on findings at the lower terrace of the Zeus Sanctuary (Seigne [1986, 1992, 1993]; Fig. 2C: no. 5) and at the Artemis Sanctuary (Gullini [1983-1984], Parapetti [1986], [1997]; Fig. 2C: nos. 24-26) each offering conflicting views.

Architectural blocks from Late Hellenistic buildings were discovered during excavation or anastyloses of Roman monuments, however most evidence for locations of buildings whose existence is known from recycled blocks stays hidden underground. One such case is the Late Hellenistic Temple of Zeus (Figs. 3:2 and 5c), a good number of whose richly ornamented blocks were found by the excavators in the underground vaults of the first century naos situated on the lower terrace of the Zeus sanctuary (Seigne [1992] and [1993]). Permitting the argument that the naos was probably located within the earlier precinct of the Zeus Sanctuary, a partial reconstruction on the site was hindered by the fact that the actual location of the monument remains unknown. The blocks are now exhibited together with an hypothetical model in the crypto portico of the lower terrace.

**Another Kind of History**

Lacking *in situ* architectural finds, the main indicators for the size of the first centuries B.C. and A.D. population are provided by the necropolis or hypogeae tombs, and through kiln waste dumps (Schumacher [1902]; Kehrberg [2001-2003],
Some of the dirt fill in the hippodrome foundation trenches of the cavea contained wasters of the first century B.C./A.D. (Kehrberg [2004], Kehrberg and Ostrasz [1997] Figs. 3.3 and 5d). The fill was most probably taken from nearby waste dumps of pottery kilns operating there when the necropolis was still in use (infra). Iliffe’s description of a potter’s store on the southern edge of modern 1933 Jerash, it seems not far from the hippodrome, established in an unused hypogean tomb (Iliffe [1945] 1) in early imperial Gerasa would have matched those kilns.

The earliest dump found intact in situ was directly underneath the west City Wall just north-west of the South Theatre (Kehrberg and Manley [2001a]; Fig. 3:2). The deep foundation trench of the city wall had been cut into a massive pottery waste dump whose earliest pottery dates to the first century B.C. and the latest pieces to the end of the first century A.D., overlapping into the second century. The big size of the dump site suggests that it was shared by several kilns nearby. This recent discovery accords well with Schumacher’s general mapping of the south-west necropolis, if one accepts the equation of contemporary tomb deposits and kiln waste. The association of necropolis and pottery workshops has already been mentioned (supra) for Gerasa and is a well-known fact at the Kerameikos in Athens.

The finds are important for ceramic studies and judging by the quantity of the discarded ceramics, their productions almost certainly exceeded the needs for burial gifts and catered for the living as well. In this context, however, the dumps are relevant because they provide the closing date for the south-west necropolis and of the pottery workshops on the terrain. A Nabataean coin of Obodas III in an upper layer of the ‘city wall kiln dump’ (to be exact, in the east baulk of the foundation trench) and a couple of Gerasa Lamp fragments (on their dating see Iliffe [1945] 2; Kehrberg [1989] 87; Kehrberg [2001a]) and other contemporary pottery sherds in the fill of the foundation trench provide a terminus post and ante quem for the closure of the necropolis and the construction of that segment of the city wall. A comprehensive study of all the finds has shown that the coin, lamps, pottery (local and imported wares) and glass all fit within the first century B.C. and the first third of the second century A.D.

Another factor may help to break down the timing between closure of the cemetery and building of the wall. The South Theatre lies immediately south of the kiln dump and is only a few metres away from the inner face of the wall. The Roman theatre was built in the 80s but not inaugurated or used until the beginning of the second century (Welles [1938] inscriptions nos. 51-53). Accordingly, the necropolis must have been closed already in this area, at the latest in the 80s, before building began on the city wall in that spot. One may also suggest that the city wall is contemporary with the theatre, that is, their constructions were begun simultaneously and completed at the same time early in the second century: the inscriptions and artefactual evidence allow such a possibility. Whichever precise sequence of public works, it seems that this part of the south-western necropolis had been ‘mapped’ out and claimed for urban occupation, religious and secular, by the end of the third quarter of the first century A.D., and that building commenced shortly after in various zones.

The unusual contours of the city wall in the southwest corner behind the cavea of the theatre and skirting around the Sanctuary of Zeus may not be due to topography alone (see Figs. 2C: nos. 5–7 and 3:2). One could argue that it is almost characteristic of Gerasene builders of the Roman period (the Hellenistic we cannot judge but may safely presume to be similar) to do the minimum in removing rocky surface whenever rocky outcrops could be included in constructions or just left in place. This
economical attitude of avoiding unnecessary labour (and cost) is apparent in too many places to be a mere oversight by one builder and too numerous to list here. These facts had already been observed by Mueller and Horsfield during the 1920s explorations of Gerasa (Horsfield [1938] 101), but were misinterpreted as ‘noncompletion’. In contrast but not contradiction, there is equally numerous evidence to show that Gerasa’s rocky terrain posed no obstacle for Roman construction whenever it was necessary for the grounds to be prepared. The vast rocky temenos of the upper Temple of Zeus, entirely hewn out of rock, is a good example (Fig. 2C: no. 6 and Fig. 5b; Braun, March, Kehrberg, et al., fc).

Another consideration may have prompted planner(s) to leave parts intact when constructing the city wall (Fig. 4:2). It is feasible that some areas of the sacred grounds of the necropolis were respected and remained untouched in the earlier phases of urban expansion. The enclosed south-western rocky outcrops with their caves may (Fig. 2C: no. 6) have been used after closure of the actual cemetery as an ‘improvised’ open-air sanctuary, perhaps associated with the dead (Kehrberg [2004, 2006]). After all, the Gerasene was familiar with Nabataean customs (see also Temple C in Kraeling and Fisher [1938] 139ff.; see Fig. 2C: no. 18), and the picturesque terrain with grottoes, some vegetation and small rocky outcrops fitted the memory of Hellenistic and Nabataean practices (Kehrberg [2004]). It would explain the curious fact that the external cave entrance below the furthest south side of the city wall was not blocked when the city wall was built on top of the rocky outcrops: it has remained open until this day (it is now in a private courtyard and used by the owner) and the grottoes have been used by the habitants past and present as stables, cool resting place and passage into the walled city.

A marked quantity of small animal statuary and altar fragments were found in the 1999 excavations in front of the grottoes, south of the south temenos of the upper Zeus temple. They could have been *ex voto* of the necropolis or of the so-called open-air sanctuary, or belonged to both (Kehrberg [2004, 2006a]). The small stone sculptures recall the terracotta animal figurines in Iliffe’s potter’s store (Iliffe [1945] Pl. 6: e.g., nos. 87; 89) but are too fragmentary and the style too rustic to date accurately; the find context provides at least a ceiling date for their destruction which was not later than the third century A.D. It is doubtful that the pieces can be associated with the Gerasene cult centre of Zeus unless one supposed that the Upper Temple ceased to be a place of worship shortly after its construction begun in ca 163 AD (Welles [1938] inscription nos. 11 and 12). The simpler solution, that the small statues and altars were found in the ‘open-air sanctuary’ *in situ* and used as building material by the later occupants, is probably closer to the truth.

The 1997 excavations further east of the grottoes revealed, that in the process of levelling the grounds for a modest first or second century portico structure, the ‘banqueting hall’ (Braun [1998]), two hypogeal shaft tombs had been destroyed. The 1999 excavations of the area about 10m further west, toward the grottoes, came across a particular lot of disposed fragmented pottery and ashy soil which provide the earliest evidence at the sanctuary for cemetery closure (Kehrberg [2004]). The immediate proximity to the two destroyed simple shaft tombs and the ashy soil leave little doubt that the pottery came from, or was at least associated with, the burials which had been removed when the tombs were emptied. With some forms already current in the second century B.C., the bulk of the pottery dates to the first century.

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2 Close parallels for similar natural and landscaped terrain can be found in S. Dar’s publication of contemporary Ituraean cult sites in Israel, see e.g. (1993) 34-35, Fig. 10, top plan of the upper cult enclosure of Har Senain. It may also be possible that the terrain was part of a funerary garden. On the subject see Toynbee (1971) 94-100 and Savvonidi (1994), who dated the installations for a funerary garden in the Crimea, near Cersonesos, to the 1st century AD. The Jarash ‘open-air sanctuary’ fits this description in a number of details.
Since the pottery from the emptied tombs shows that the closure of the necropolis there, without necessarily destroying the tombs, occurred well before the construction of the South Theatre, the City Wall and the Upper Temple complex (in that order), it is possible that building the Late Hellenistic temple of Zeus (supra) in this vicinity would have had stopped new tombs to be cut.³

Architectural explorations of the Upper Temple of Zeus complex concluded with excavations on the east slope rising from the lower terrace of the earlier temple (Braun, March, Kehrberg, et al., fe). The rocky slope was roughly terraced but it is not clear from the terrain whether the rocks were terraced specifically for the installation of the grand staircase which led to the Upper Zeus Temple precinct. The terracing exposed small natural cavities in the rock which show traces of their surfaces having been trimmed or ‘tidied up’. The fill of these cavities has provided collateral evidence for dating the closing operations of kilns associated with the necropolis and ex-voto offerings in this area. Layers of pottery and patches of ashy earth recall sacrificial offerings. The pottery in the bottom layers dates to the first century B.C. but the top layers finish late in the first century A.D. Considering that this area was the lower part of what may have been an open-air sanctuary or even a ‘funerary garden’ (see above and note 2 and Kehrberg [2004]), the fires and offerings in these cavities could also be associated with funerary rituals. On the slope nearing the pronaos, the construction level of the staircase contained the same pottery as the foundations of the upper temple, dated by the inscriptions to early in the second half of the second century AD (Welles op.cit.). It was the same layer which sealed the rock cavities and carried the foundation for the antes (on the pottery see Kehrberg [2007]).

Summing up, the earliest evidence for urban spread and of shifting uses of space before actual construction took place is provided by tombs, their contents, closure and final destruction. Almost the same information can be gained from the kilns associated with the necropolis, that is, their waste products. These closures occurred at the theoretical stage of ‘town planning’, as still happens today, which was implemented later by the gradual or phased construction of monuments. Indirect evidence, such as above, can reveal more about the planning of urban growth and the date than the scattered monuments themselves.

Quarries operated in Gerasa on and during the necropolis phase of the first centuries B.C. and AD (Kehrberg and Ostrasz [1997] 167f.; Fig. 4:1). It appears that the first quarries were Late Hellenistic, at least on the South-West Necropolis (see Schumacher’s plan on figure 2A where the necropolis areas are clearly marked) and probably also in the central area associated with ‘Temple C’ (Fig. 2C: no. 18). ⁴ Their secondary ‘occupation’ shows that work was abandoned at the latest by the time Hadrian visited Gerasa in A.D. 129/130 (Detweiler [1938] 73 and Welles [1938] inscription no. 58) and most probably before then. This can be seen as additional support in the argument that urban planning and ‘closures’ went well ahead of the actual construction of the second century monuments, and reinforces the argument that implementation of building programs was phased.

³ It is quite plausible that the two small hypogeum tombs found under the portico of the ‘banqueting hall’ were at first only sealed when that part of the cemetery was closed, leaving the landscape of rocky outcrops intact. The destruction, accidental or otherwise, of the tomb chambers themselves must have occurred at a later stage when the terrain was redeveloped like the banqueting hall.

⁴ See the 1920-30s excavations and the photos in Kraeling (1938: pl. 28c, d) of ‘Temple C’. The ground or walking level shows clearly the quarrying marks and negatives of blocks which are identical to those on the south side of the Upper Zeus temple complex and which according to J-C Bessac (pers. comm.) can be associated with Hellenistic quarrying techniques.
In the first century AD, architectural remains still standing *in situ* provide information about the building phases in urban planning programs. The best preserved ruins are the South Theatre (Fig. 2C: nos. 5-7), the lower terrace and vault of the Sanctuary of Zeus. Other monuments are either known of through inscriptions or their foundations under second century structures like those of the North and South Gates (Detweiler [1938] 117-25; Seigne [1986] 42-59). Spolia of a small round temple tomb, built in the first century BC/AD and destroyed in the early second century (Fig. 2C: no. 1), was found in the core of the Hadrianic Arch and can be traced back to this monumental tomb just north of the arch (Abu Dalu [1995]; Seigne and Morin [1995]).

The city walls excavations at the west wall revealed an earlier foundation incorporated in the foundation wall of the city wall securely dated to the early second century A.D. (Kehrberg and Manley [2003]). Ashy lenses and burnt offerings could be dated by the pottery assemblage and fragments of building décor to the first century BC/AD (Kehrberg [2003, 2004]). The painted stucco was identical to the Late Hellenistic blocks found in the naos at the Zeus sanctuary (*supra*) both in style and material. The nature of the finds and the stratified contexts make it highly likely that the incorporated foundation and assemblage belonged to a contemporary naos or temple tomb at this spot which had to make way for urban development, in this case the city wall, just like the other contemporary temple tomb outside the city wall opposite Hadrian’s Arch and the hippodrome (*supra*).

When trying to assess the seize of the population of first century Gerasa, evidence is hard to come by: estimated seating in the South Theatre is ca 3000, counting the seat stones but that number is far below even a mean average. Here also, kiln dumps (representing only a fraction of production) and the tombs still in operation could add valuable information about the growth of population as well as urban spread or limits in the first century. So far conjecture of progressive urbanisation has relied heavily on scanty architectural remains and finds of first century blocks reused in later structures. The hypothesis that Gerasa grew from one central nucleus in the south and gradually spread to the north of the city was presented on the basis that the sanctuary of Zeus was the first, and most important (Seigne [1992]). Chronological ‘expansion’ was equated with northward urbanisation. From this generally adopted view derived the idea that architectural blocks of the first centuries B.C. and A.D. reused as spolia at other sites belonged to this southern cult centre, or vice versa, that the idea was formed by Late Hellenistic spolia found in other buildings in the north. Either way focuses on the Zeus sanctuary being the nucleus from which urban development radiated. This theory may need to be re-examined and revised. Archaeological evidence for use of first century spolia is evenly spread in north and south Gerasa (at least for the known western half) where early blocks have been found in foundations and simple wall structures of later periods which may suggest that the urban size of the city was already broadly defined as proposed in schematic plans 2 and 3 on figure 4. Once one accepts the possibility that the north was also populated in the first century, there is little reason to assume that the second century population transported spolia as building material from the south to the north of the city. It appears reasonable to propose instead, that the Gerasene builder quarried for ready-made blocks close at hand.

The latter is reinforced by three known first and early second century temples in the northern ‘district’. These are the first Artemis temple known from inscriptions (Welles [1938] nos. 27-29; see also Gullini [1983-1984] and Parapetti [1986]), the foundation remains of Temple C (Fisher and Kraeling [1938] 139-48), and the concealed remains of a third temple dated to the end of that century or beginning of
the second, the so-called Dionysus temple under the Cathedral (for dating see Kehrberg [1997, 1998]). Three temples in the northern half alone, spreading over the first century and into the early second, and not forgetting that these shrines, even if for funerary cults, must have represented a well established community, bespeak of simultaneous urban planning in the north and south. The combination of these factors alone can be regarded as a serious challenge to the often adopted view of a singular ‘southern nucleus’ whence urbanisation radiated.5

Pottery kilns and large-scale commerce in ceramics had been operational before and during the construction phases of urban second century Gerasa. The evidence comes from foundation fills of the hippodrome, whose dirt includes misfired pottery and wasters from the 1st century BC to the early century A.D. The pottery workshops in this area must have been moved when the necropolis was closed for the construction of Hadrian’s Arch followed a little later by the hippodrome (Ostrasz [1989]; Kehrberg [1989]). The date of closure of the tombs is attested because the hippodrome arena and eastern cavea covered hypogean tombs which were aligned on both sides of the prepared but unpaved Roman road (coming from Philadelphia) passing through the main gate of Hadrian’s Arch and the contemporary South Gate of the city wall (Figs. 2C: nos. 1-4; 3:3 and 5d). The latest remains of the abandoned and destroyed tombs date to the Hadrianic era, including a Decapolis Gerasa coin (obverse Hadrian, reverse Artemis, the city goddess) found in the dromos of the ‘Temple Tomb’ (Seigne and Morin [1995], and supra). The earliest of the burials can be dated from the first century B.C. to first century A.D. (Abu Dalu [1995]; Kehrberg [2004]).

The second century potters may have moved from the hippodrome to set up business nearer the Zeus sanctuary, on the peripheral of what became the upper temple complex, possibly joining other workshops (see Kehrberg [2001b, 2007]). It is probable that pottery kilns continued to be in operation during construction of the upper temple complex of the Zeus Sanctuary around A.D. 160. This can be deduced from the waste products found in foundation deposits of the podium and behind the west temenos wall (Kehrberg fc). Whilst one could argue that the waste was brought as fill removed from dumps of abandoned kilns (as at the hippodrome), it is striking that the contextual stratified history of the upper temple complex shows no typological gap in discarded pottery represented in good quantity in the stratified levels. The relative sequence of the assemblages does not show a break in production, contrary to the hippodrome where the hiatus between the pottery assemblages from foundation fills (latest pieces from early to mid-second century A.D.) and the first kiln dumps in the chambers of the cavea (in the later third century A.D.) is clearly marked (Kehrberg [2001b]).

Unfortunately, few archaeological teams working in Jarash have been able to study their sites and excavated material in such detail and much of the ‘secondary’ or non-architectural evidence which helps identify cycles of reuse of a site has been lost, especially for the Roman periods. Architectural remains are still regarded as the main source, whilst pottery, kiln wastes and other litter tend to be ‘valued’ more for their usefulness as dating tools than for their suitability as complementary studies of urban settlement.6 The best documented, that is published Roman phase of changing urban

5 The comments expressed in this essay reflect the writer’s thoughts based on personal observations made over the past 25 odd years of archaeological field work at Jarash, 18 of which permanent as resident archaeologist like at the hippodrome (1984-1996) and the Upper Zeus Temple (1996-2000), and together with various archaeological teams, on a number of other sites in north, west and south Gerasa.

6 The writer is aware of many cases where such primary information has been found but is in no
occupancies occurs in the Late Roman period. The documentation is based on architectural remains, the pottery productions being again in the forefront of understated evidence. The changing uses of earlier Roman sites in fully urbanised Gerasa are interesting: The completed building programmes (even with unfinished constructions) and excavated cultural material show that Gerasa’s population was prosperous and must have relied on trade in local goods, notably ceramics, for a good part of its revenues (Kehrberg [2001b, 2004]).

Masses of pottery were again produced at the hippodrome in the later third century after chariot racing had ceased and potters had moved back to their previous district (Ostrasz [1991] 238 and Kehrberg and Ostrasz [1997] 523; Kehrberg [2001c]). At least along the periphery of the upper Zeus temple complex, production did not cease at all from the first century on. It seems to have shifted in small areas within the same zone to make room first for building the city wall, then the upper temple complex and other buildings around it (Kehrberg fc). The quantity of discarded ceramics covering the grounds within and outside south of the upper temple precinct suggests that production seems to have increased during the earlier third century (to compensate for failing productions at the claimed hippodrome site when it was still a racing course?).

The shifting use of urban space between the hippodrome and the upper Zeus temple compound is clear: Once the hippodrome district was ‘reclaimed’ by potters they occupied the building until the end of the Byzantine period in the early 7th century, after which it was abandoned and only sporadically occupied by Umayyad and later squatters until the Ottoman period (when the arena was turned into vegetable gardens). The upper Zeus temple complex has a more complex occupational history, and one which on the whole lasts much longer with shifting and changing internal spatial use in each historical phase. The number and thickness of the cultural deposits leave no doubt that the north and west temenos and the south-western area outside the temenos were more intensively used during the Late Roman period than the south temenos itself or the cela or the eastern slope towards the lower terrace.

The specific uses of space at the hippodrome are straightforward. The pottery kilns, workshops and tanneries and their lime kilns were installed in the cavea chambers of the building in the Late Roman and Early Byzantine periods (later 3rd to early 5th century A.D.; Kehrberg [2006b, 2001]). The arena was kept clear of any construction or litter, whether pottery dumps, tannery waste or domestic rubbish. The domestic quarters were modest constructions for the workers and their families. Any spill from domestic waste or work process in the chambers piled up in the periphery of the cavea outside the doors of the chambers, and spreading, gradually raised the walking level along the outer perimeter. The original doorways to the chambers of the cavea were often made smaller, and could only be reached by steps cut into the industrial and domestic dirt piled up in front of the entrances. Some chambers had new doorways cut into the podium wall facing the arena, mostly those converted into dwelling; some had wall partitions, simple hearths, but rarely pavement and raised floor levels.

No such changes as were made to the cavea of the hippodrome are apparent at the upper temple of the Zeus complex. Although almost fully excavated, archaeological position to discuss the material evidence until it has first been published by the excavators.

7 Inferences of family life can also be made by several infant burials below thresholds in the domestic quarters of the cavea and an equally modest grave for a family of three just outside one of the east chambers of the cavea. The burials belong to the later third to early fourth century A.D. There is another, almost primitive, burial of one adult and one child inside one of the west chambers which dates to the construction phase of the hippodrome. Could this have been a family of a worker who lived on the building site during construction like so many still do in Jordan today?
remains other than artefacts and soil deposits are scanty and the used areas are more difficult to interpret in the Late Roman period. A possible explanation is that the temple could still have been used as a pagan religious edifice in the 3rd and early 4th centuries. The large quantity of discarded ceramics in the temenos court area and their deliberate spreading over the whole surface, the even course of deliberately crushed roof tiles, the piles of mortar, the dismantled temenos wall in the south, are indications of use other than haphazard squatting (on the pottery see Kehrberg [2007, 2001b]). These ‘features’ appear to have been a form of preparation of the terrain for some sort of use, like a makeshift walking surface. Finds in the grottoes just behind the southwest corner of the temenos corroborate these findings: Excavations in one of the caves showed parallel evidence of accumulated dirt with some pottery and architectural fragments. The space in front of the caves and between the dismantled or destroyed ‘banqueting hall’ (Braun [1998]) was also ‘organised’, but it appears it was left behind as an abandoned unfinished task (Braun, March, Kehrberg and Laroze, fc).

A similar situation occurred at the site of the Cathedral, built at the beginning of the fifth century A.D. (Kehrberg in Brenk, Jäggi, et al. [1997, 1998]). As at the upper Zeus temple complex (and elsewhere in west Gerasa), there was first the necropolis followed by an early 2nd century temple (supra, the so-called Temple of Dionysos) whose podium was found just underneath the single aisled Cathedral. The next change of use is indicated by a small bronze foundry installed right next to the north podium wall of the temple. The foundry dates from the third to fourth century. There is also pottery waste, but the quantity cannot be compared with other waste dumps due to the small scale of excavations (carried out to investigate the history of the building/s).

An interesting contemporary find was made in a shop along the north cardo, part of the Artemis-Propylaea complex (Parapetti [1997]). There also, the earliest structure dates to the first century, after which it was adapted to fit the second century architecture along the cardo. Later, in the third century, substantial kiln waste below the floor level of constructional adjustments attests to potters or at least a potter’s workshop in the immediate vicinity. Here as elsewhere, the evidence of ceramic waste attesting potters’ activities continues right through the Byzantine period and beyond. 8

To sum up the jigsaw pieces of information and ignoring the artificial gaps, Roman Gerasa, as the Hellenistic town, experienced a fair amount of shifting uses for the same urban space and some patterns of ‘recycling’ of territories are recognizable (e.g., at the hippodrome).

Waste dumps, notably of pottery (this being the best surviving artefact) provide much information about changes of a terrain or territory. Whilst dumps at the Zeus upper temple are not related to specific pottery workshops on the temple compound,
their presence vouchsafes kilns nearby. The discarded waste shows further, that the compound had been prepared for use early in the third century, either to provide a walking surface for the unfinished (unpaved) courtyard or perhaps to install some sort of working space there, as can be seen at the temple under the Cathedral. The Hippodrome waste dumps with their kilns are direct evidence of the building changing its function: it became The Potters’ Quarter par excellence. The other industry, the Late Roman tanneries, are also attested by direct evidence of the tanners’ workshops and the lime production for the treatment of the skins. Here the waste consists of thick layers of dried flows of liquid lime coating the vats and basins in the workrooms and which had datable tools imbedded in them (Kehrberg [1992]).

Second to the monuments themselves - the churches - Byzantine Jarash is perhaps most appreciated for its recycling of Roman architectural building material in the construction of these churches (see Crowfoot [1938]). The ceramic productions in the 6th century, especially the Jerash Bowls and Jerash Lamps, have also been studied in detail and are as widely known today as they must have been to their contemporaries. The uses of ‘city space’ in the Early Byzantine era remains sketchy, due to scant excavations of unexplored terrain not showing monumental ruins above the ground, made so evident by the aerial photographs spanning almost a century (Figs. 1 and 3). There is sufficient data to suggest a substantial community which should encourage exploration of the lesser areas.

The fact that the earlier churches were built first at the extreme eastern side of the city can only mean that the presence of a community justified the expense of building the churches, also being furthest from the Christian ecclesiastical centre in the western, civic heart of the city. One may infer from this that, since the churches were mostly built along or very near already existing streets, the eastern half of Gerasa was as established as west of the Chrysorhos in the Roman period. At any rate, the population was sufficiently large in the east to warrant the building of a second large Baths complex in the second century. Today, modern construction keeps exposing Early Roman to Byzantine architecture at the same rate and quantity as the new buildings spring up, whose foundations destroy the older ones much like building did in ancient times.

One is left with the image of a town of shopkeepers and merchants. This picture of quiet prosperity owes perhaps more to the excavated layers of waste products and other material evidence of recycling work, not forgetting the burial gifts found in the early hypogeum tombs, than to the stripped ruins of monumental architecture above ground. It appears, judging by archaeological deposits that commercial activities were barely interrupted by earthquakes and the subsequent deterioration of public buildings, or by political events.

REFERENCES

Abbreviations


Sources of illustrations, Figs. 1-5
Fig. 1 Aerial views 1998: APAAAME_1998.DLK
Aerial views 1917: scans of Dalman 1925
Fig. 2 Town plan 1898: scan of Schumacher 1925 [out of print, antiquarian book]
 Town plan 1938: scan of Kraeling 1938
 Town plan 2000: scan of Braun et al. 2001
Fig. 3 Aerial views 1999, 2008: APAAAME_1999_, 2008.DLK
Fig. 4 Schematic plans: I.K. / author
Fig. 5 Photos on the ground I.K/author; Aerial view 2008 APAAAME_2008.DLK
Figure 1. Gerasa / Jarash. Aerial views 1917 and 1998
Figure 2. Ancient Jarash town plans 1898, 1938 and 2000
Figure 3. West Gerasa. Archaeological explorations 1999 and 2008
Figure 4. Schematic overview of Gerasa's urbanisation from Hellenistic to Late Roman
Figure 5. The ‘urban park’. Aspects of West Gerasa tourism projects 2007-2008