The Decapolis: History and Archaeology

9 Hinterlands and economy

KENNEDY, D. 2007: *Gerasa and the Decapolis: A Virtual Island in the Northwest Jordan*. London.

All topics covered in this lecture are rather diverse and vast in themselves, so consider this a very brief introduction to the issues outlined here.

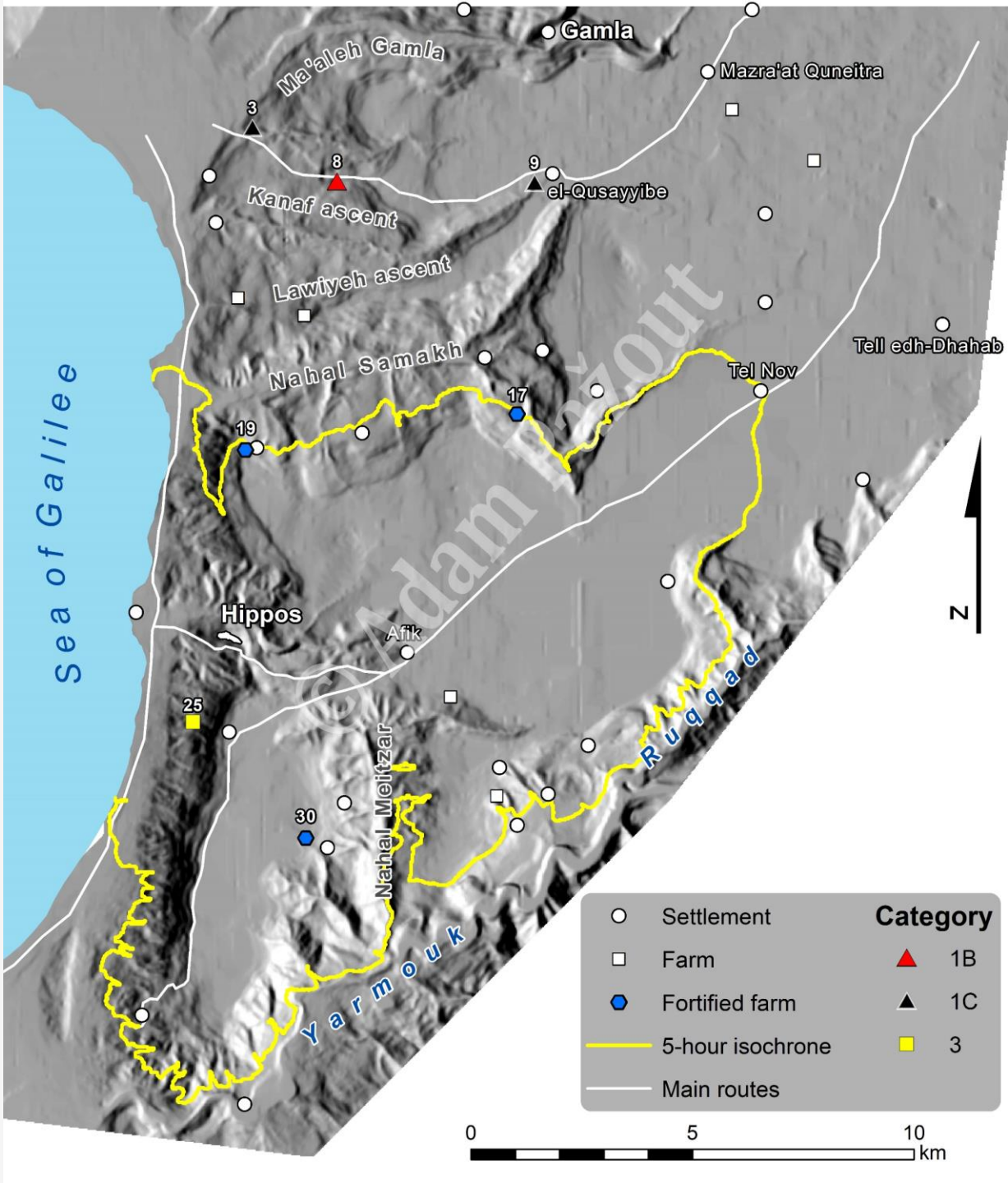
Hinterlands (territories)

- Each *polis* – an autonomous political entity – would possess also the lands around the urban centre
- Gr. *chora*, Lat. *territorium*
- *Chora/teritorium* is the agricultural hinterland and administrative territory of a *polis*
- Lands can be owned by citizens, *polis* as a community, or non-citizens
- The city would derive most of its basic food supply from its hinterland (self-sufficiency – *autarkia*, but this was more of an ideal than reality)
- The income from the city would be derived from rents, property and land taxes from the *chora*
- In the Roman period the council of the city (*boule*) was responsible for collecting taxes to the Imperial fiscus and providing *munera* (obligations) that were imposed on the community (maintenance of roads, providing travel amenities for government officials etc.) – all within the territory of the city
- That would stress the importance of exact delimitation of the city territories, but surprisingly little is known to us

- In the Iron Age Aegean the *poleis* formed from small agricultural settlements that coalesced into one urban centre (*synoecismus*) leaving smaller communities as satellite settlements
- Typical Greek *polis* has a *chora* of 5-6 km in diameter (huge city-states such as Athens and Corinth are exceptions)
- Usually 1-day return radius around the city (ca. 10-15 km) is assumed for effective marketing (providing food to the urban market) and for providing other functions (commercial, administrative, cultic etc.) to the inhabitants of the *chora*. I.e. 1-day return radius would be upper limit for effective functioning of the economic and administrative territories
- Greek colonies however were founded in empty or less populated places, so the colonists were able to build larger urban centres and claim more land (i.e. larger *chorai*) than would otherwise result from "natural" growth of settlements and political unification
- This process is still inadequately understood in case of the Hellenistic foundations in the East

Hinterlands (territories)

- Proposal for delimitation of *chora* of Hippos in the Hellenistic period
- 5-hour isochrone – assumed 1-day return radius



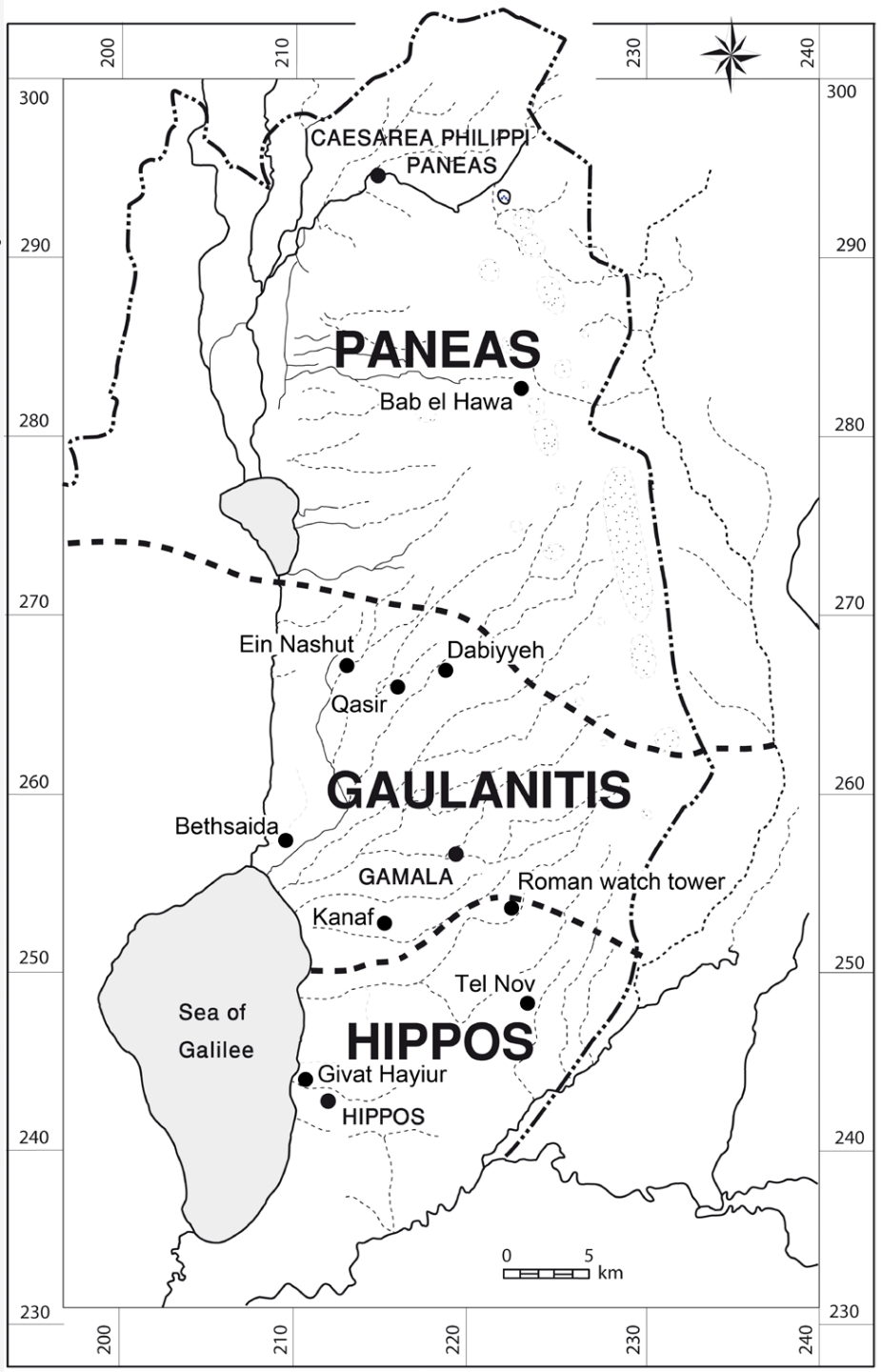
Hinterlands (territories)

- The reconstruction of the territories is usually based on historical-geographical approaches, and combining various archaeological, but predominantly historical and epigraphical sources

1. Boundary stones (rare)
2. Usage of particular dating era in inscriptions (but e.g. all Decapolis cities are using Pompeian era starting 64/3 BCE)
3. Direct attribution of a place to the territory in ancient sources (Josephus, Bible, Eusebius' Onomasticon, Talmud, etc.)
4. Delimitation of Byzantine dioceses (bishoprics tend to follow secular administrative division)
5. *Caput viarum* on Roman milestones (unreliable)

- Distribution of certain artifacts (pottery types, coins etc.) is better suited for identification of provincial boundaries

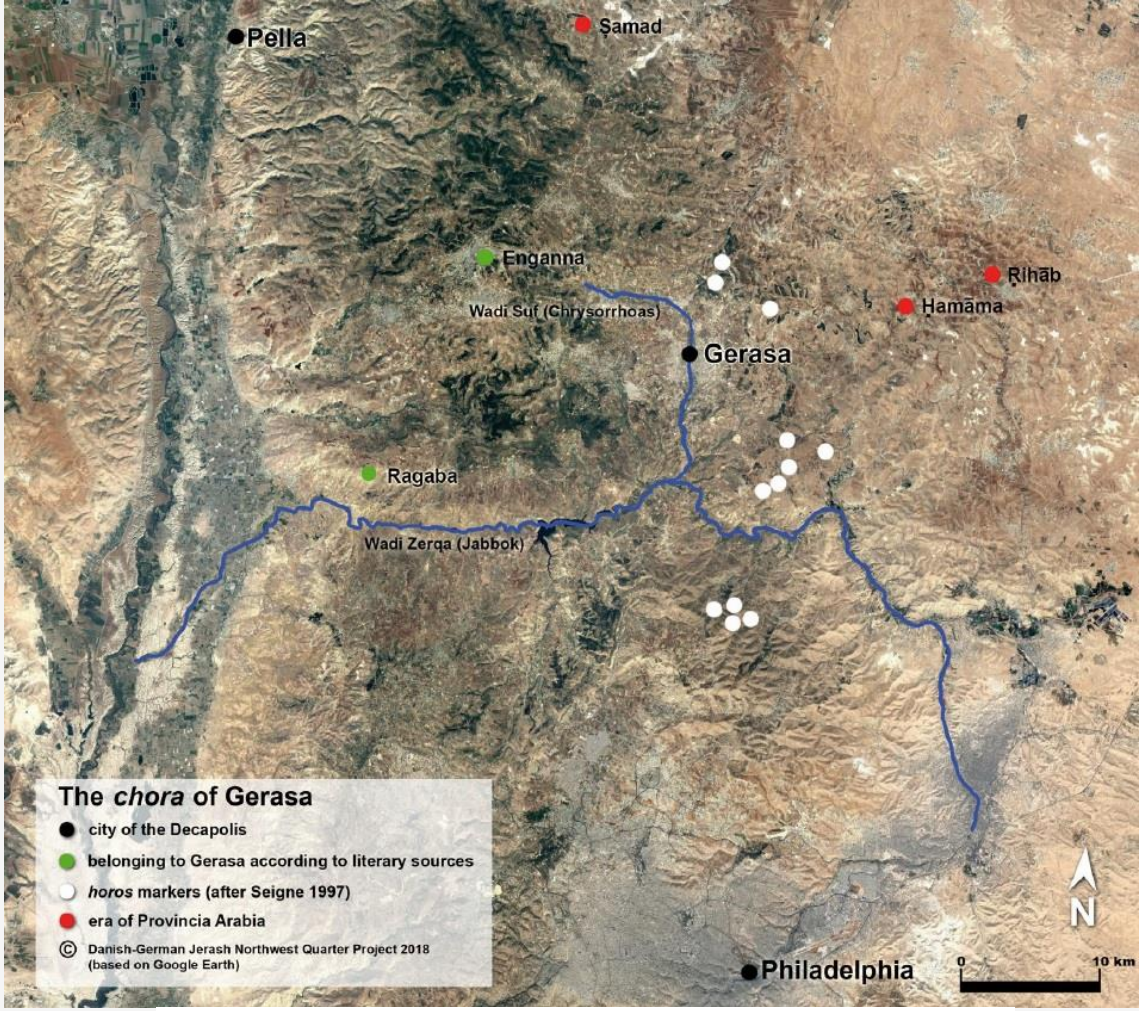
Proposed reconstruction of territories in the Golan is based on a) era used on inscriptions (Pompeian era in Hippos, era of Caesarea-Paneas, Seleucid era), b) Diocletianic boundary stones (territory of Paneas and Syria Phoenice) and c) direct Talmudic attribution of places to the territory of Hippos and Eusebius' Onomasticon
Gaulanitis is a non-urbanized district within province Syria Palaestina

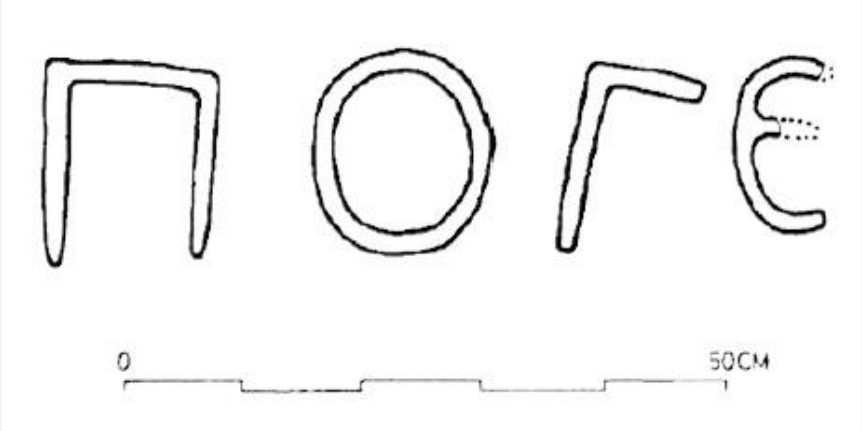


Hinterlands (territories)

- Gerasa
- Ragaba and Enganna are attested in the literary sources as belonging to the city
- Places marked in red are not using Pompeian era of the city but era of Province of Arabia (106 CE)
- Eastern border might be marked by boundary inscriptions carved into bedrock in several places (in white)

ΠΟ(ΛΙΣ) ΓΕ(ΡΑΣΕΝΩΝ) ? "City of Gerasenes" ?



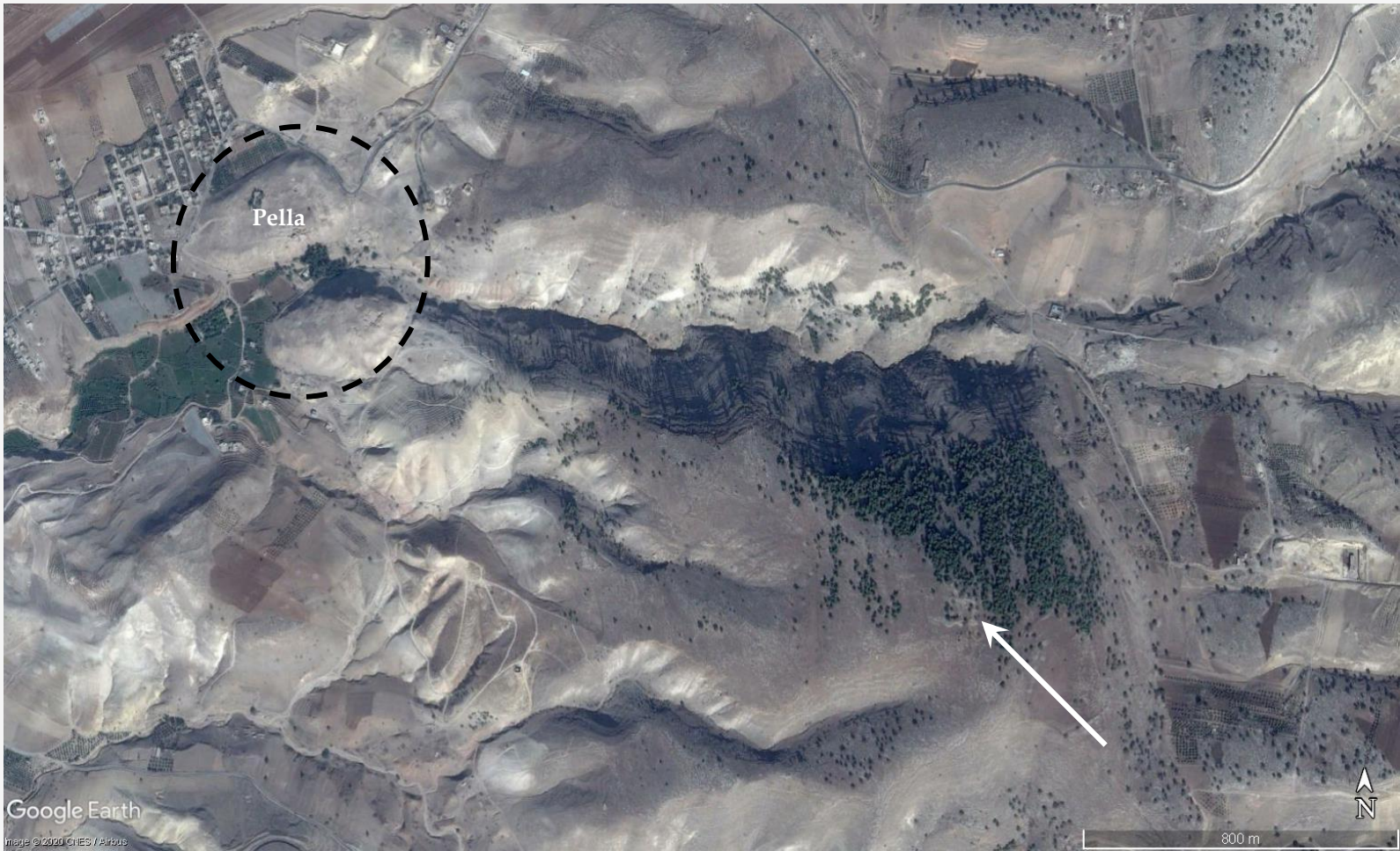


Hinterlands (territories)

- The territories might be in some case marked by various rural fortifications
- Function: road security (patrolling), administrative centres, garrison forts, refuges etc.
- Typically watchtowers, or larger complexes with or without towers

- Large royal palace-forts, legionnary camps and other Roman forts are different category altogether

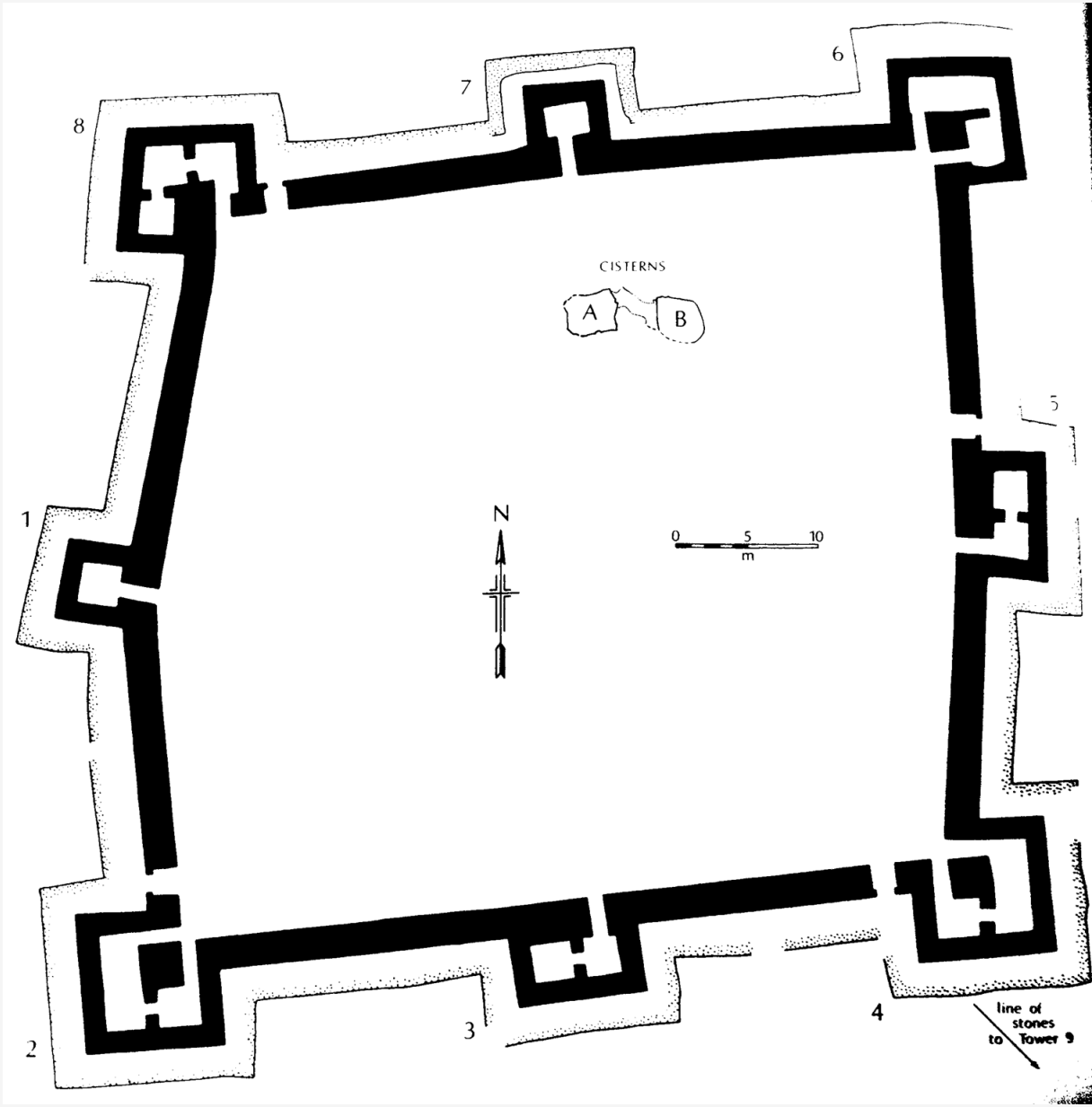
Jebel Sartabah (ca. 2 km east of Pella)



Hinterlands (territories)

- Pella – Jebel Sartabah
- Rectangular fort ca. 70x70 m
- Up to 2 m thick walls built of solid masonry
- Four corner towers and four additional smaller towers in the curtains
- A postern in each wall
- Walls are reinforced by a *proteichisma* (a fore-wall)

- Apart from two cisterns, there are no additional structures inside the fort's perimeter
- Very little datable material was found on the surface and in the probes, majority dated to the Hellenistic period
- The style of masonry and fortification methods also point to the Hellenistic period
- Lack of additional buildings and small amount of material might suggest that the site was intended as a refuge for population of Pella and was rarely used



Hinterlands (territories)

- (Watch)towers are frequent, but it is harder to assess their function
- Some “watchtowers“ might be in fact used for habitation or as an agricultural towers, and so might lack any surveillance or military-related function
- Agricultural towers are used for storage, processing of agricultural produce or seasonal habitation during harvest

Left: Rujm Fiq – Tower, watchtower/agricultural tower in the territory of Hippos, ca. 10x10 m (Early? to Late Roman period)

Bottom: Tower in the territory of Gadara

Economy

- Ancient economy was agriculture based
- Majority of workforce was bound to agricultural production and most revenues were extracted from it as well
- "Mediterranean triad" : wheat, olives, grapes

- Commercial activity is attested mainly by transport *amphorae*
- But much more goods must have been transported in containers from perishable materials (leather, wood, textile)
- Trade in raw materials (metals, building stones etc.) and finished products (e.g. glass) is known mainly indirectly through distribution of finds
- The Levant was a relay station for Eastern overland trade from Persia and Arabia (for frankincense, myrrh etc.)
- Some specialities of the Eastern trade were produced also in the Levant (balsam - perfumes, bitumen, dates), including manufactured products (glass, purple dye)

- Glass was apparently invented in the Levant during the 3rd millennium BCE (in the form of faïence)
- Clear glass and glassblowing were invented in Phoenicia during the 1st c. BCE
- The main reason the coastal Levant became major glass-making region are rich deposits of high-quality sand on the coast

- Yet the evidence for industrial production (pottery, glass, metals etc.) is scarce
- Most evidence for ancient economy comes from production and processing of the agricultural crops (presses, wineries etc. – due to their ubiquity), second to that are quarries for building material and lime kilns
- One of the reasons might be that the industrial production in the Roman period was more decentralized, with many activities taking place outside of the city

Economy

"The name of the lake is **Gennesaritis** [i.e. **Sea of Galilee**]. It produces also **balsamum**." Strabo 16.2.16

"**Jericho** is a plain encompassed by a mountainous district...Here is the Phœnicon [palm plantation], which contains various other trees of the cultivated kind, and producing excellent fruit; but **its chief production is the palm tree**…**balsamum**…is a shrub with an aromatic smell…This is the case also with the Phœnicon, which alone contains the caryotes palm…**a large revenue is derived from the [date] palms and balsamum; xylobalsamum** is also used as a perfume." Strabo 16.2.41

"Then follows **Ptolemaïs**, a large city, formerly called Ake…Between Ake and Tyre is a sandy beach, **the sand of which is used in making glass**." Strabo 16.2.25

"**Asphaltites** [i.e. **Dead Sea**] produces nothing whatever except **bitumen**, to which indeed it owes its name…the town of Engadda [i.e. En Gedi], second only to Hierosolyma in the fertility of its soil and its **groves of palm-trees**." Pliny NH 5.15.16-17

"...while those [i.e. **olives] of Decapolis**, in Syria, are so extremely small, that they are no bigger than a caper; and yet they are **highly esteemed for their flesh**. It is for this reason that the olives from the parts beyond sea are preferred for table to those of Italy…" Pliny NH 15.4

"…**Phœnicians** in general have always excelled all nations…by [the export of] **purple-dyed manufactures**, the **Tyrian purple** being in the highest estimation. The shellfish from which it is procured is caught near the coast…The great number of dyeing works renders the city unpleasant as a place of residence." Strabo 16.2.23

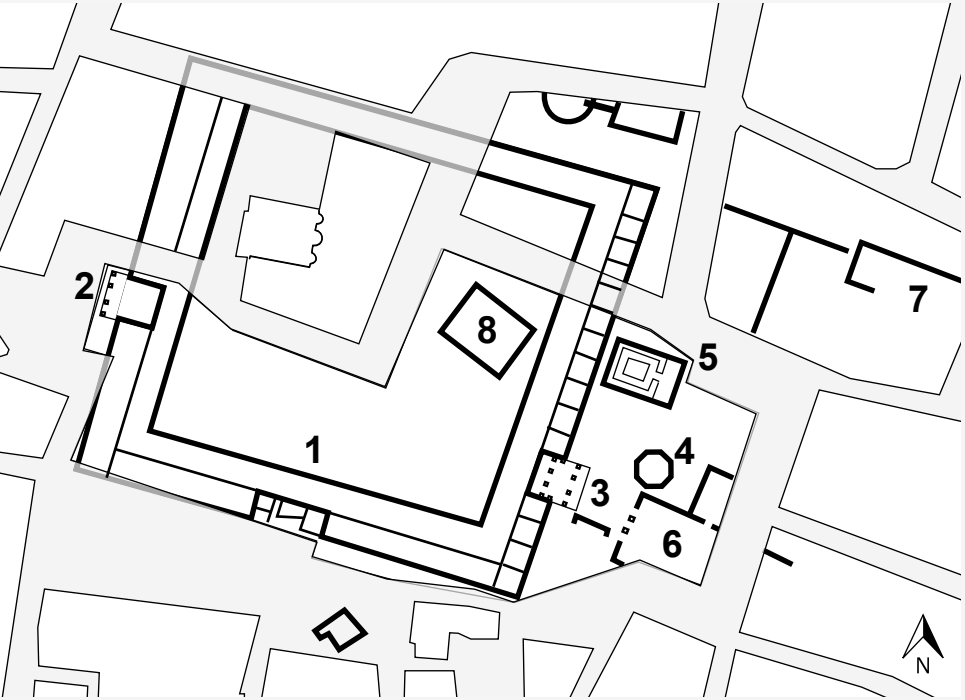
"Cattabania [Yemen] produces **frankincense**, and Chatramotitis [Hadramawt] **myrrh**; these and other aromatics are **the medium of exchange with the merchants**. Merchants arrive in seventy days at Minæa **from Ælana** [Aila in Jordan]. Ælana is a city on the other recess of the Arabian Gulf…**opposite to Gaza**..." Strabo 16.4.4

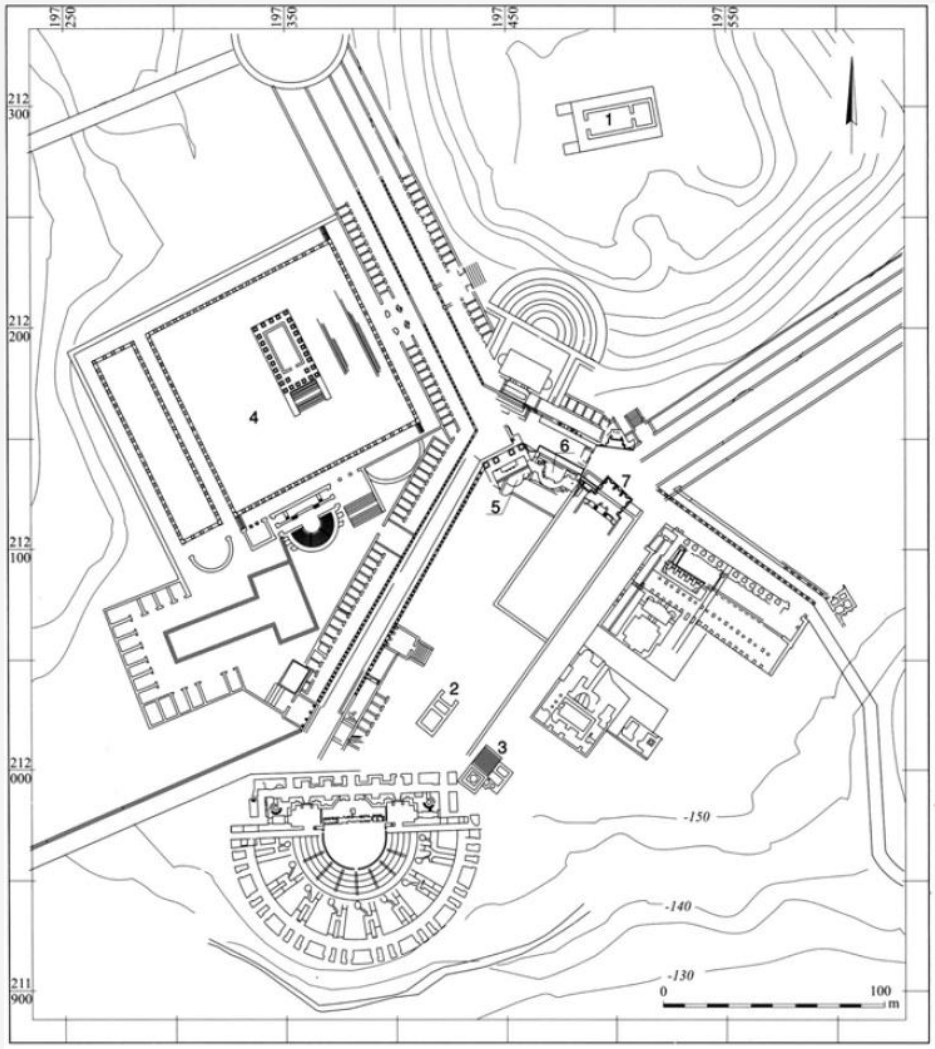
Economic activity in the cities

- In the Roman period our knowledge is mostly restricted to market areas and marked-related activities
- A type of a "commercial agora" typical of Hellenistic-Roman Aegean, dedicated to market activities, does not seem to appear in the Levant
- Instead, rows of (work)shops were constructed along the main colonnaded streets (see lecture 4 on the city planning)
- The colonnaded streets with shops are in fact precursors of Medieval souqs

Below: Roman Agora of Athens, the comercial district of the city in the Roman period (2nd c. CE)

Right: Plan of the 2nd c. CE Scythopolis, note the two streets flanked by rows of shops



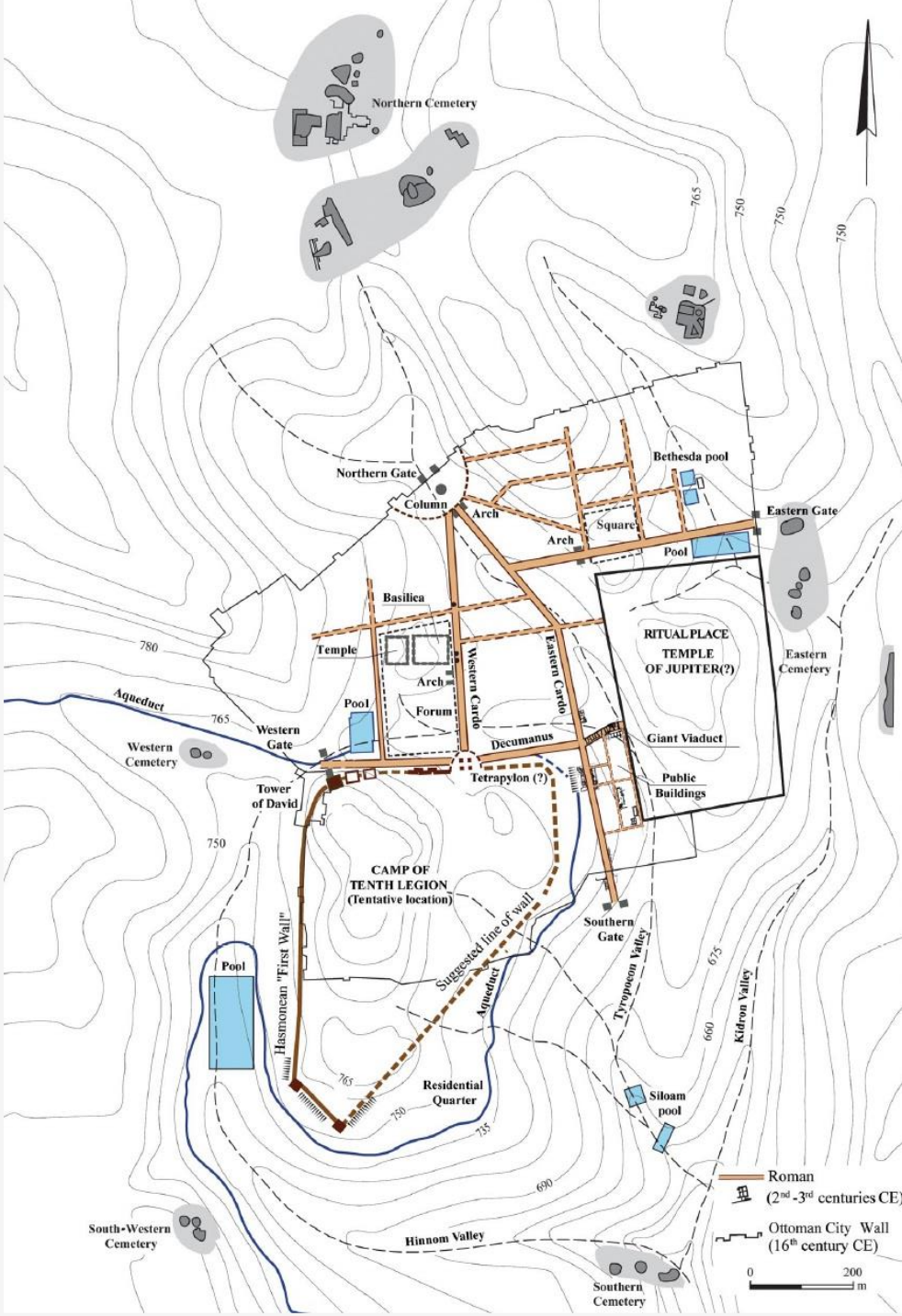


Economic activity in the cities

Jerusalem

- First commercial street was built during the 1st c. CE to west and below the Temple Mount
- Shops were built along the eastern and western cardo after the foundation of Aelia Capitolina (after 130 CE)

Eastern cardo



Economic activity in the cities

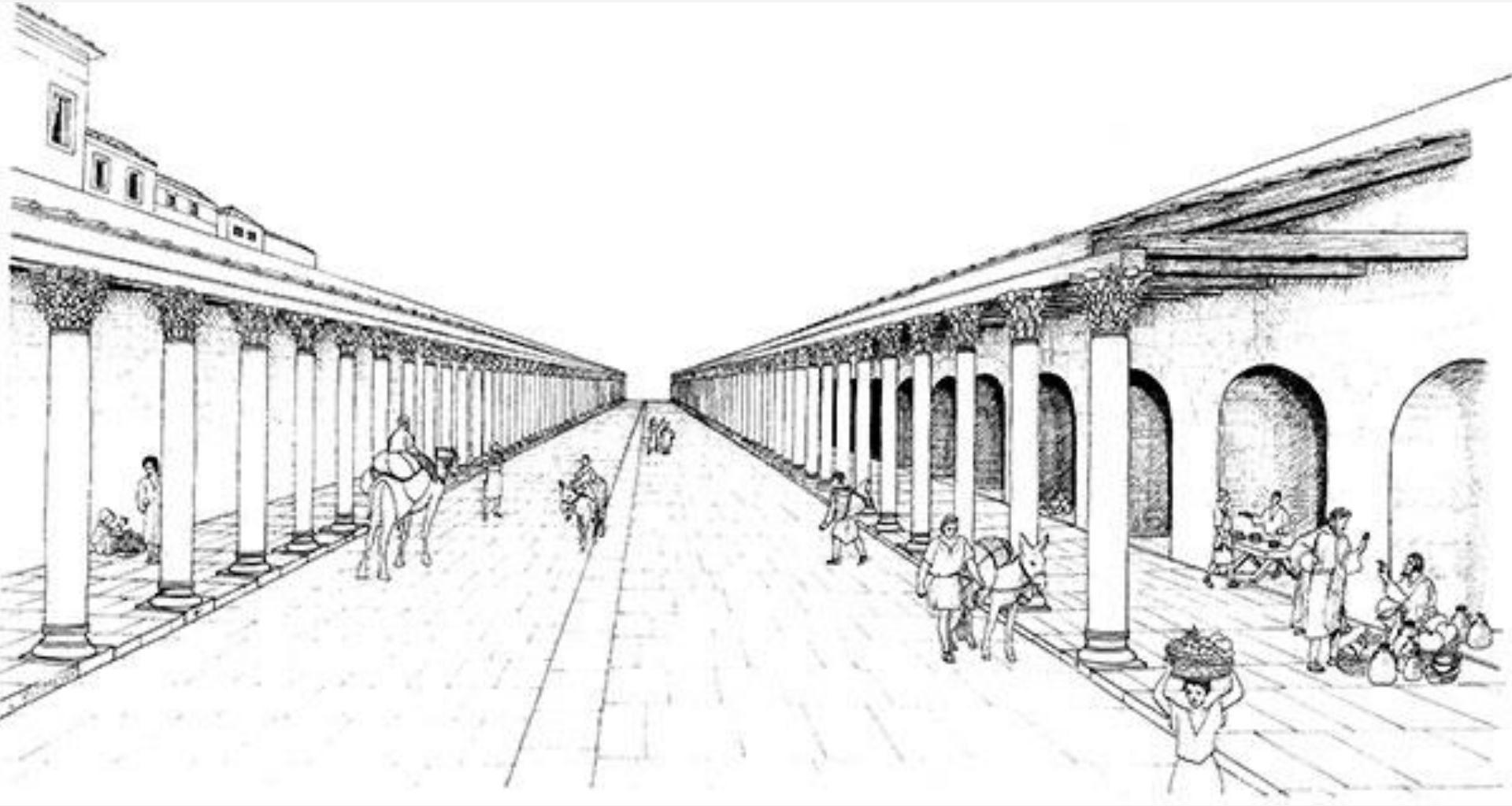
Jerusalem

- Eastern cardo looking south-west, remains of stylobate with a column in situ is visible to the centre-left

Economic activity in the cities

Jerusalem

- Reconstruction of the southern segment of the western cardo in the Byzantine period
- Note there are no shops on the left (western) side of the street

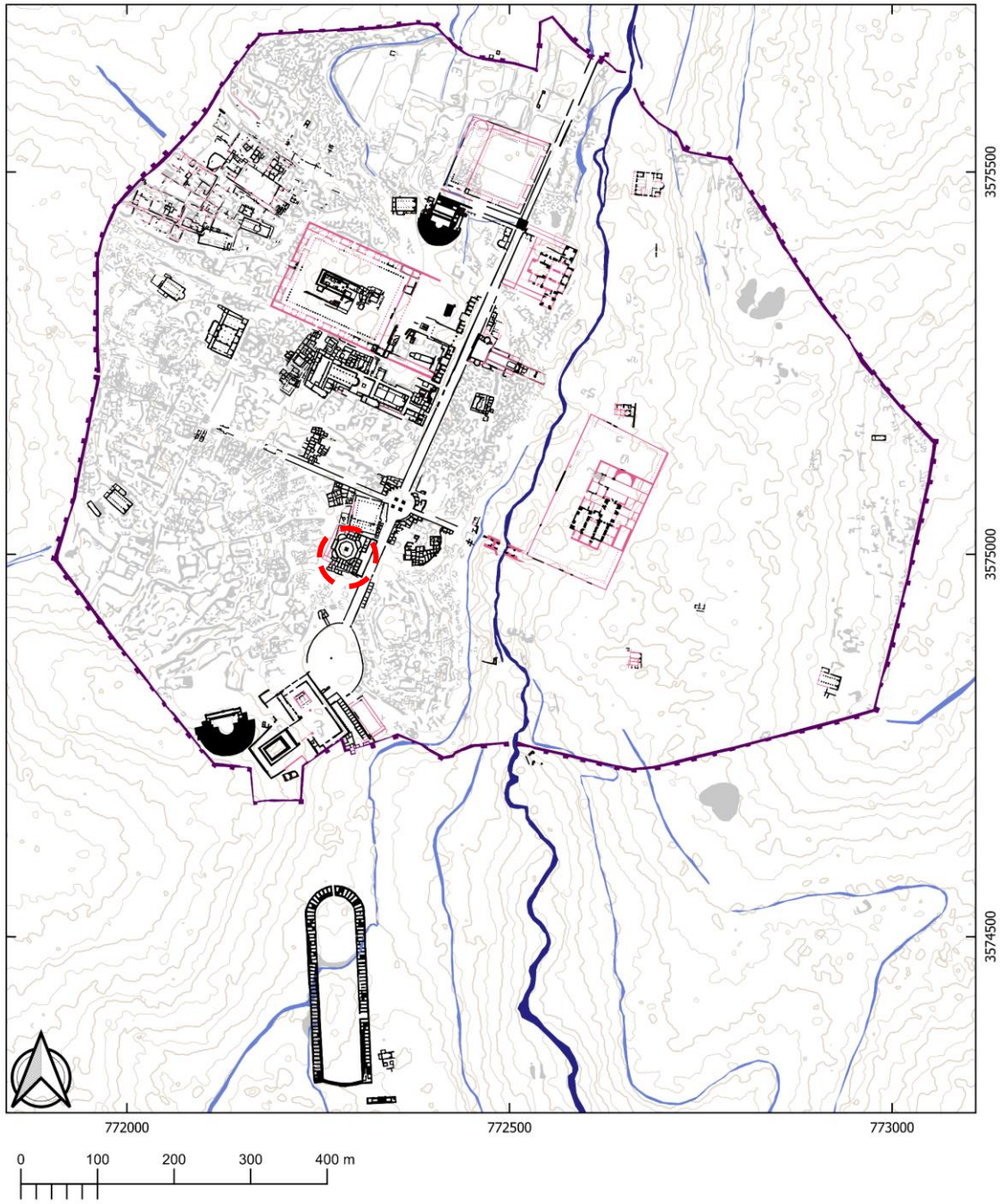


Economic activity in the cities

Gerasa

- Cardo was lined with rows of shops
- Shops were also part of the round plaza around southern *tetrakonion*
- A *macellum* was built between the *tetrakonion* to the north and Oval Plaza to the south in the 2nd c. CE, probably coninciding with the widening of the cardo between 130-150 CE

- *Macella* were market buildings most often associated with meat processing in the ancient sources
- They usually consist of a peristyle courtyard surrounded with shops and *exedrai*, also containing water fountains, storage and cooling facilities
- They develop in Italy as specialized markets during the 2nd c. BCE
- They spread in the Mediterranean during the 1st-3rd c. CE



Economic activity in the cities

Gerasa

- Shops built in the eastern terrace of the sanctuary of Artemis – note that the ceiling probably rested on the cornice and the upper storey immediately below the vault could have been used for other purposes

Economic activity in the cities

Gerasa

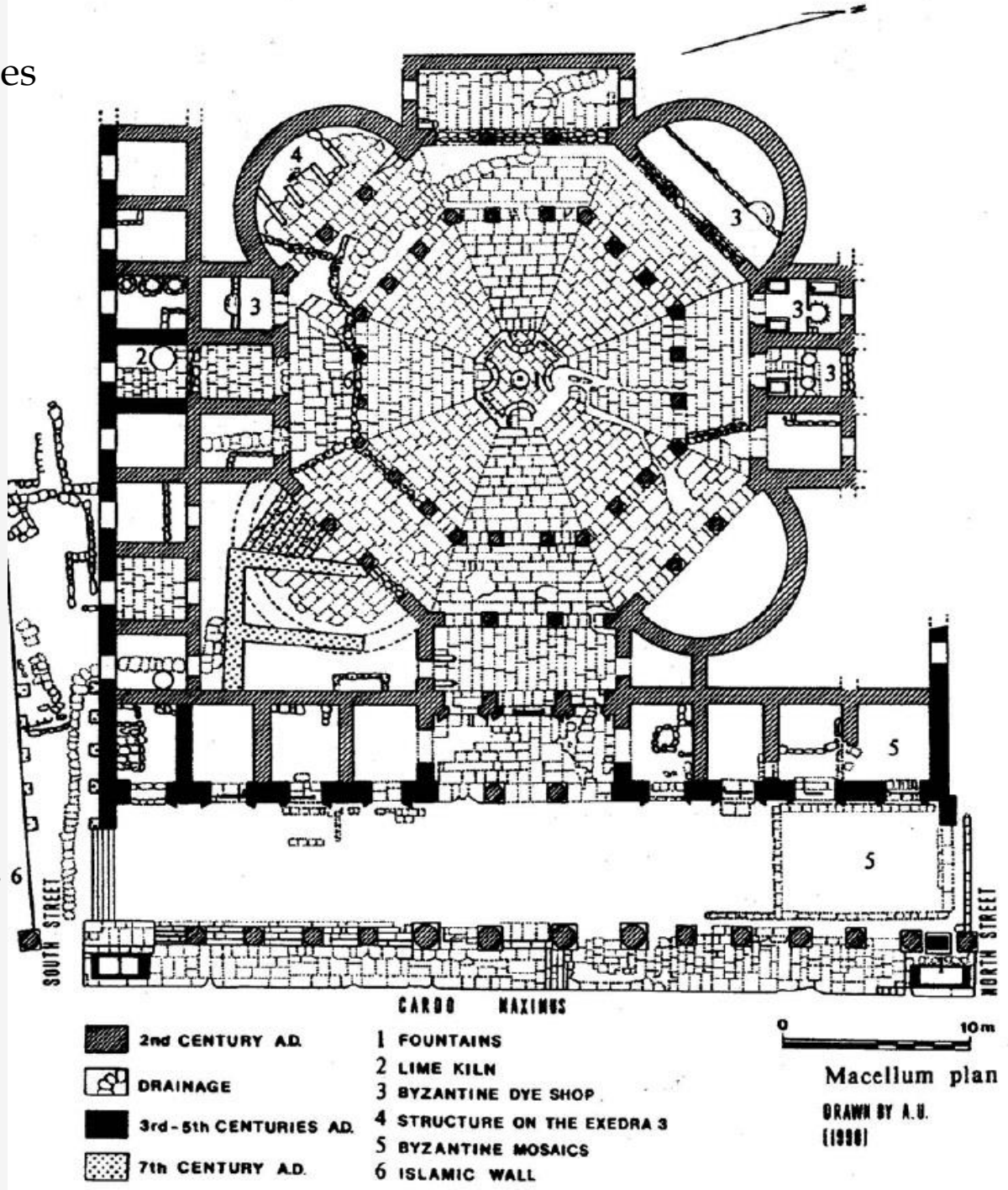
- Shops built in the eastern terrace of the sanctuary of Artemis

Economic activity in the cities

Gerasa

- *Macellum*
- Octagonal Corinthian peristyle with a small water fountain in the centre and paved with white limestone
- The whole insula between the three streets is ca. 50x50 m
- Main entrance is towards the cardo on the east, additional entrances are from the southern street (later converted to additional shops) and through vestibule in the west
- The *macellum* itself contains 4 semi-circular *exedrai* and 5 shops (*tabernae*) – all paved with limestone
- Access to water and the stone paving is apparently functional – easier cleaning

- In the Byzantine period the building was converted for various uses (dye works, lime kilns, stables, storage)



Economic activity in the cities

Gerasa

- *Macellum* – cardo entrance

Economic activity in the cities

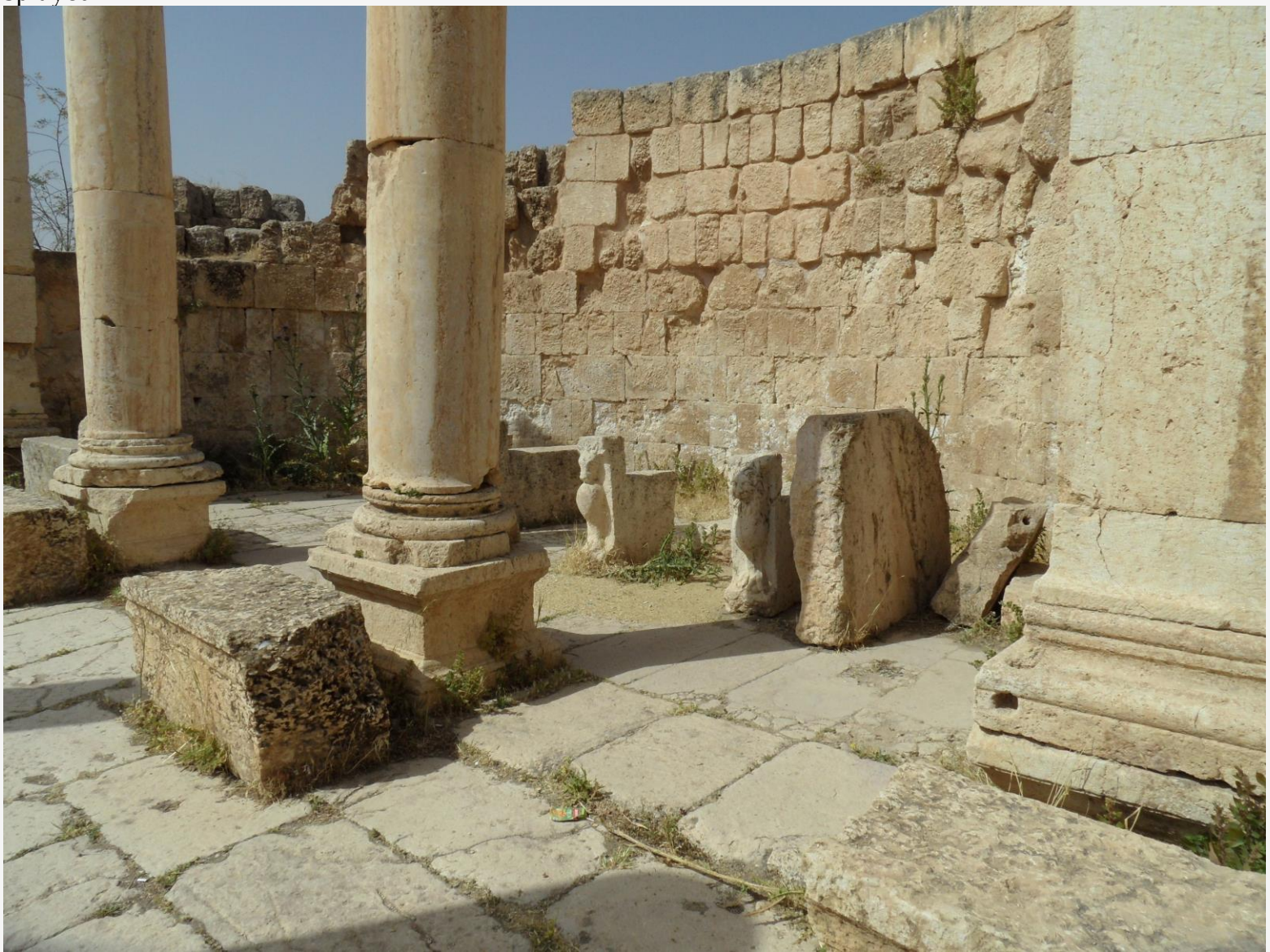
Gerasa

- *Macellum* – courtyard with a fountain

Economic activity in the cities

Gerasa

- *Macellum* – one of the *exedrai* with legs decorated with lions of a stone table (*mensa*), where the merchandise was displayed



Economic activity in the cities

Gerasa

- *Macellum* – one of the *exedrai* with legs of a stone table (*mensa*), where the merchandise was displayed, decorated with lions

- Inscriptions carved on the cardo columns could attest functional division of the markets/workshops

κερα-

μεων

(belonging to the) potters; I.Gerasa 79

Μαρινου

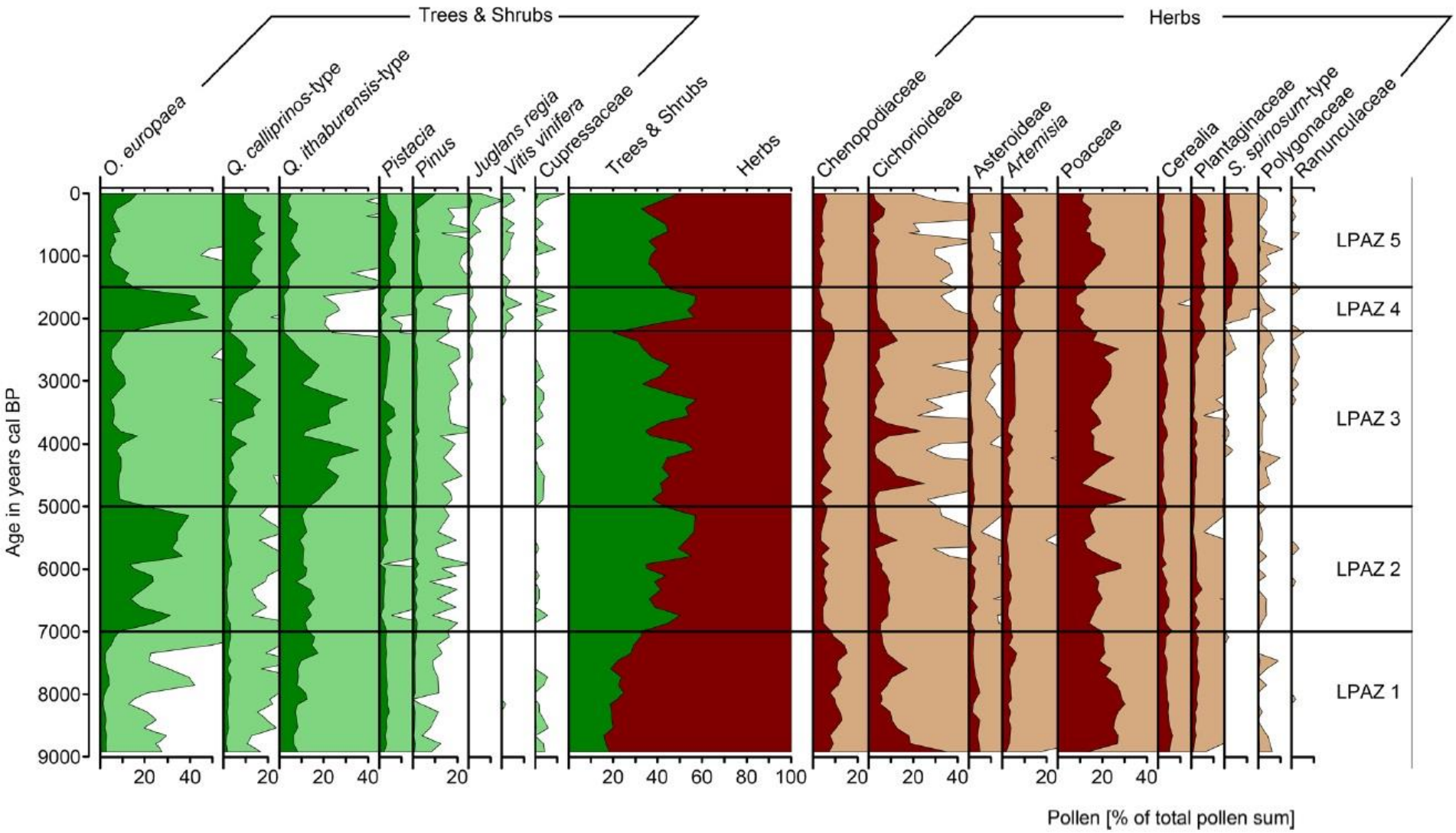
χα[λ]κε[ως]

(belonging to) Marinus, the blacksmith

Agricultural economies

- Pollen cores extracted from the Sea of Galilee sediments
- LPAZ 4 (*local pollen assemblage zone*) – Hellenistic to Byzantine period

O. europea – olive
Q. calliprinos, q. ithaburensis – oak
Juglans regia – walnut
Vitis vinifera – grape vine



Agricultural economies

- I.e. sharp increase in olive cultivation in the southern Levant after ca. 350 BCE (with sharp decrease around ca. 550 CE)
- Grape vine and walnut start to be more intensively cultivated from the Hellenistic period onward (walnut is an import from Persia)

- The intensive cultivation of cash crops (olive, wine) and more demand for wood due to increase in population causes decrease in oak forest cover

Schiebel, V. – Litt, T. 2017: Holocene vegetation history of the southern Levant based on a pollen record from Lake Kinneret (Sea of Galilee), Israel. *Vegetation History and Archaeobotany*. doi.org/10.1007/s00334-017-0658-3

2,300–1,500 cal BP (Hellenistic and Roman/ Byzantine periods)

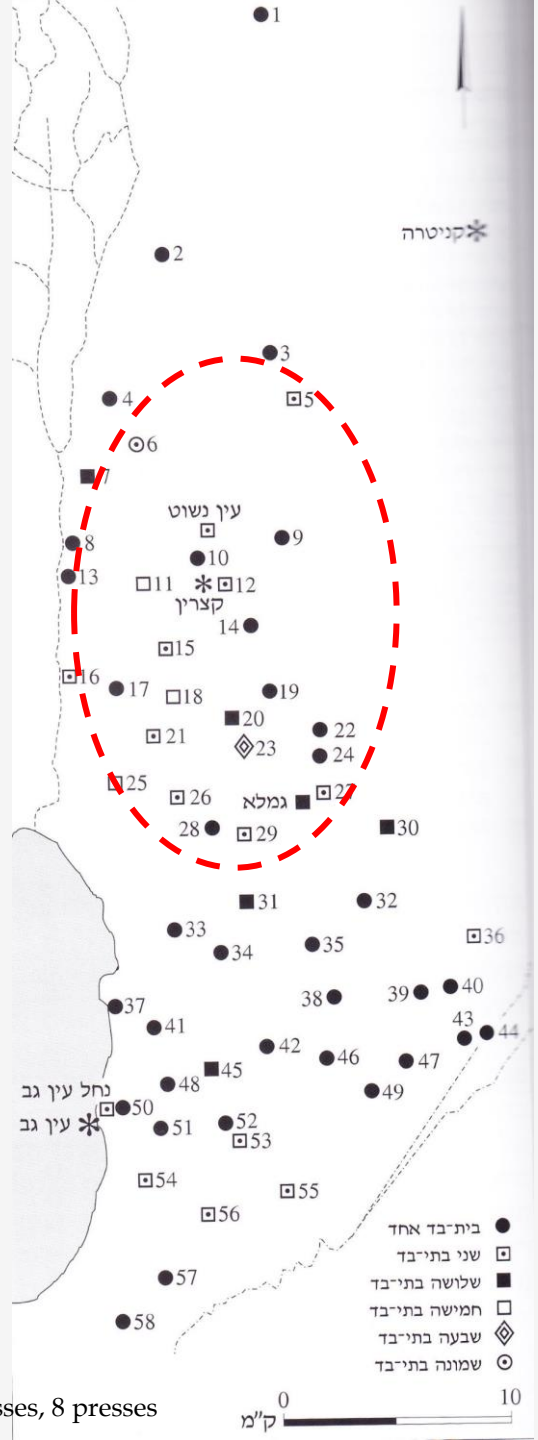
In the Kinneret record, the replacement of oak woodland by olive groves is obvious at the beginning of the Hellenistic period (Fig. 6). This is in agreement with the archaeological findings that important cities were established around the lake at that time, such as Hippos and Gadara as parts of the so-called Decapolis (Zangenberg and Busch 2003). In addition, during the Roman period, Tiberias was founded (Fortner 2003). Olive production played an enormous role as indicated by numerous archaeological finds of oil presses (Safrai 1994; Fortner and Rottloff 2003). The pattern of increased evidence of *Olea* is in good agreement with the pollen ratios recorded by Baruch (1986), who analysed sediment core KIN4D taken in 1979 from a more southern part of Kinneret. Since olive pollen ratios in the Birkat Ram record (Neumann et al. 2007a) do not rise as strongly as in the Kinneret record, the trade in olive oil is assumed to have been established in the Kinneret region earlier than on the Golan Heights (Zohary et al. 2012). High olive pollen values are typical through the Roman and Byzantine period, which can also be observed in the Birkat Ram record (Neumann et al. 2007a), in the Lake Hula results (van Zeist et al. 2009), as well as from Ein Gedi (Litt et al. 2012). During this period, the cultivation of *Vitis vinifera* (grapevine) and *Juglans regia* (walnut) is clearly shown in this region.

Agricultural economies

- Example: Roman and Byzantine olive oil production in the Golan Heights
- 58 sites yielded evidence for olive oil production (typically remains of presses, crushing basins, crushing stones, weights, collection vats etc.)
- There is typically one press per site – presses were communal and whole village took turns in their usage (like flour mills in Medieval Europe)
- In the central-western Golan (marked, also "Lower Golan") there is large concentration of oil presses, often with 2-8 presses in a single site
- This suggests processing of very large quantities of olives after harvest

- The central Golan is covered by younger basalts with very rocky soils, which are not suitable for cereal agriculture
- Olives however can be grown without difficulties
- A specialization in olive oil production thus developed in the region
- Calculations estimate up to 500 tonnes of oil/year

- It is interesting that the Lower Golan was predominantly Jewish in the Late Roman-Byzantine period
- Note that northern and eastern Golan is practically devoid of oil presses – very rocky soils are suitable practically only for limited gardening or pasture, and in places with good soils, the soil is not well drained in winter which causes tree roots to rot



Map legend from top down: 1 press, 2 presses, 3 presses, 5 presses, 7 presses, 8 presses

Agricultural economies

- Oil presses
- Upper: lever press

In use at least since Iron Age until 19th c.

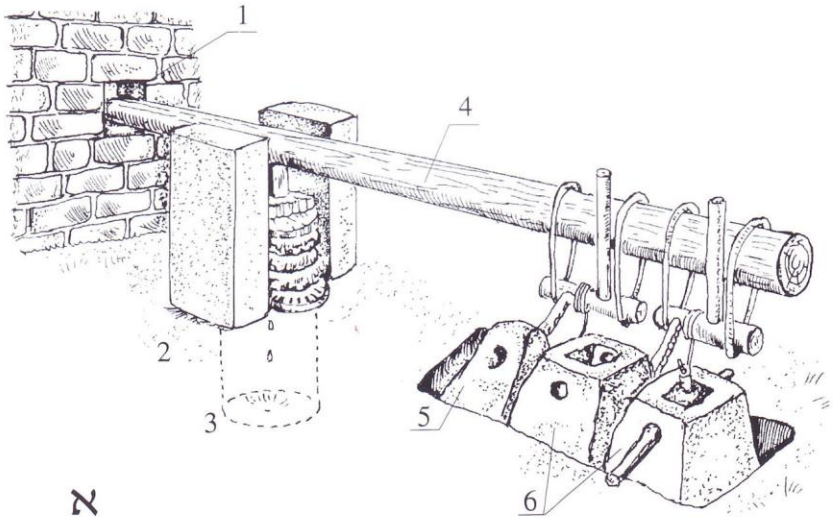
Weights are continually added in the pressing process

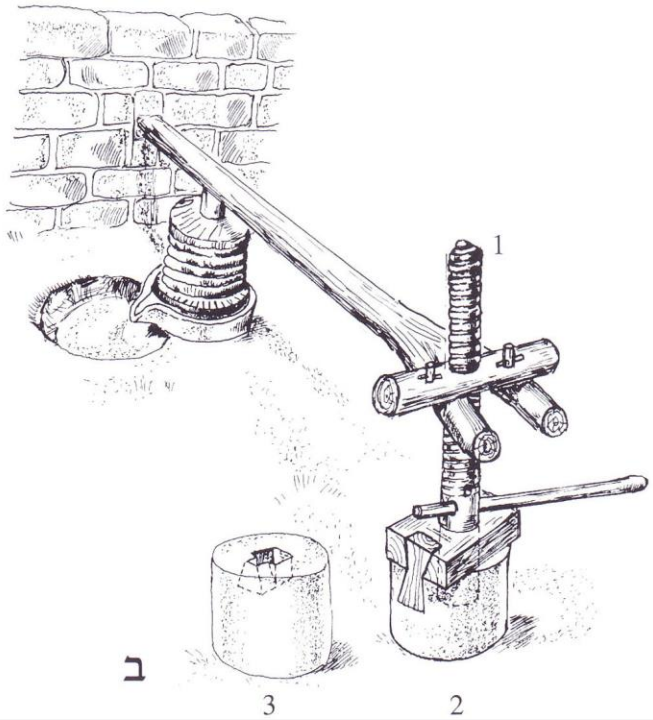
- Lower left: Lever and screw press

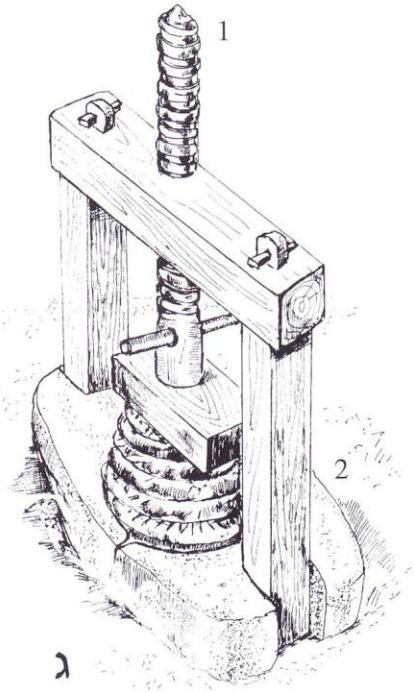
Developed in the Roman period

- Lower right: screw press

Developed in the Roman period, typical for the Byzantine period







Agricultural economies

- Oil presses
- Crushing basin and crushing stone (Qatzrin, Lower Golan) – olives are first crushed and then pressed

Agricultural economies

- Oil presses
- Fragment of a lower part of screw press (outside of Hippos, southern Golan)

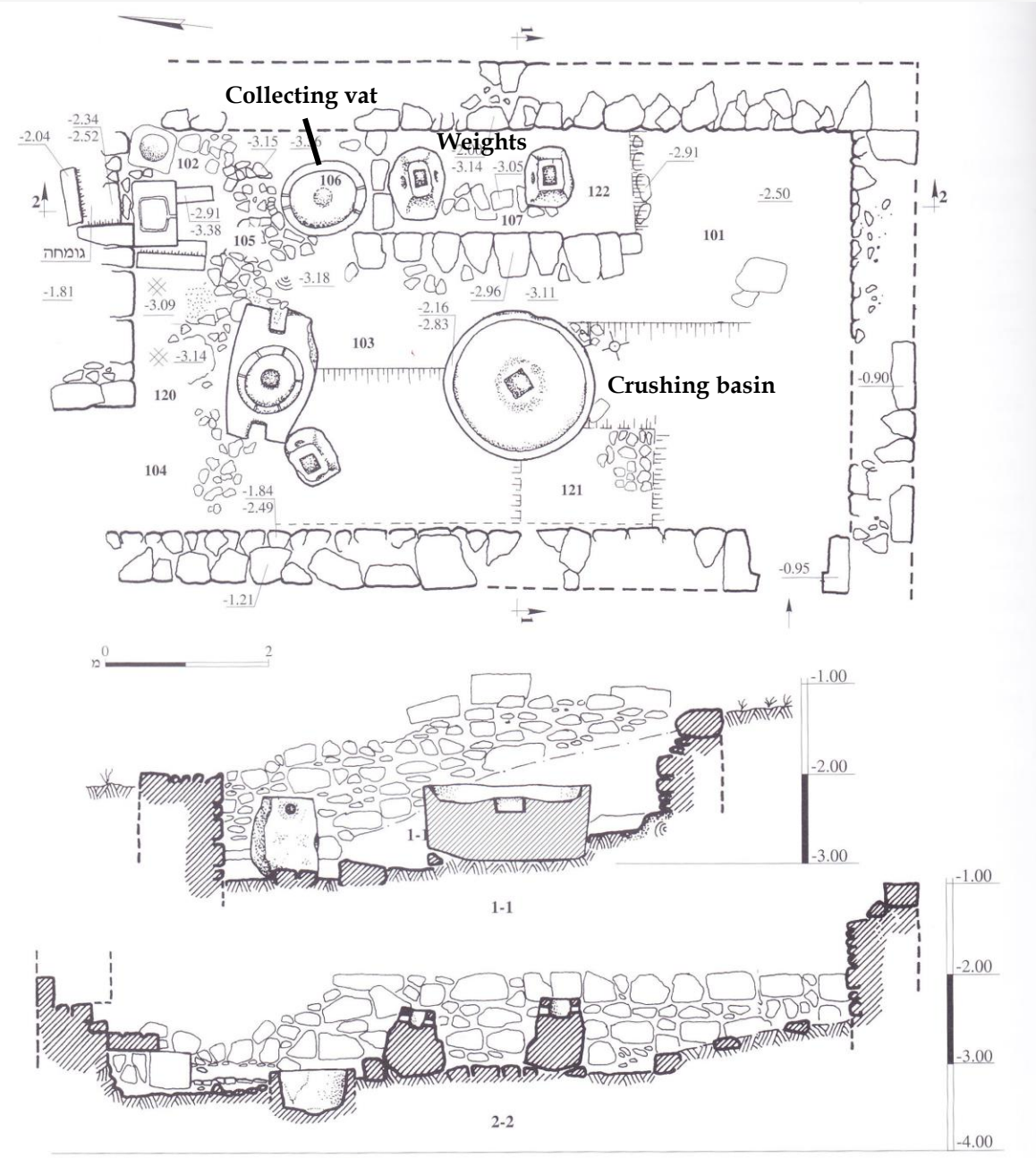
Agricultural economies

- Oil presses
- Reconstructed screw press (Qatzrin, Lower Golan)

Agricultural economies

- Oil presses
- Oilery at Givat ha-Iyur (west of Hippos, southern Golan)
- Ca. 8.75x4.85 m

- Note the large centrally located crushing basin
- In the first phase (1st c. BCE/1st c. CE) only a lever press was in use (perfectly preserved, only wooden lever is missing)
- In later phase (3rd/4th-6th c. CE) a screw press was added



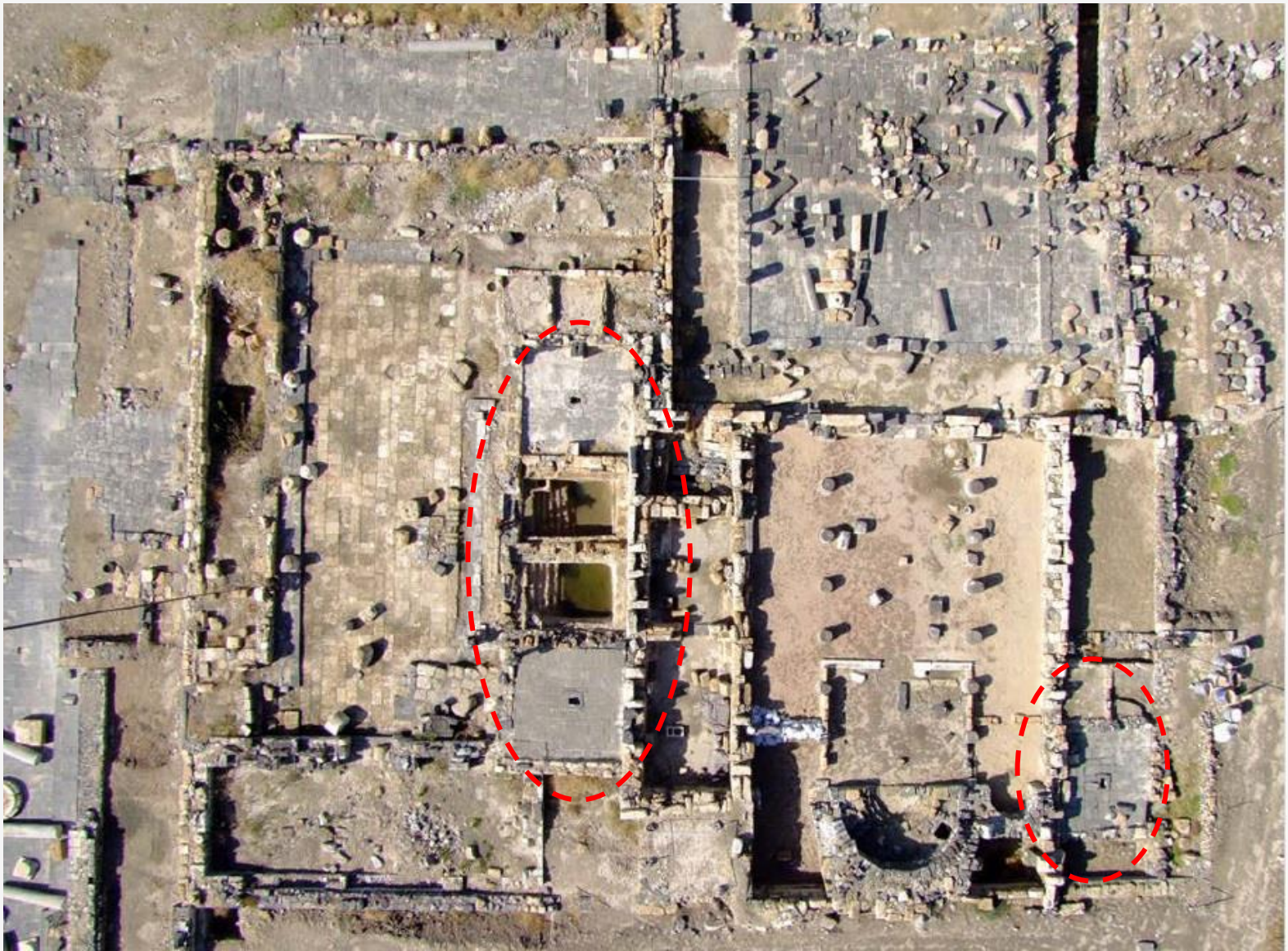
Agricultural economies

- Wineries
- Wine was often processed directly in the wineyards – pressing floors and collecting vats are then hewn in the bedrock
- Such installations are hard to date, some were paved with simple mosaics and these are probably Roman/Byzantine

A pair of winepresses in southern Golan

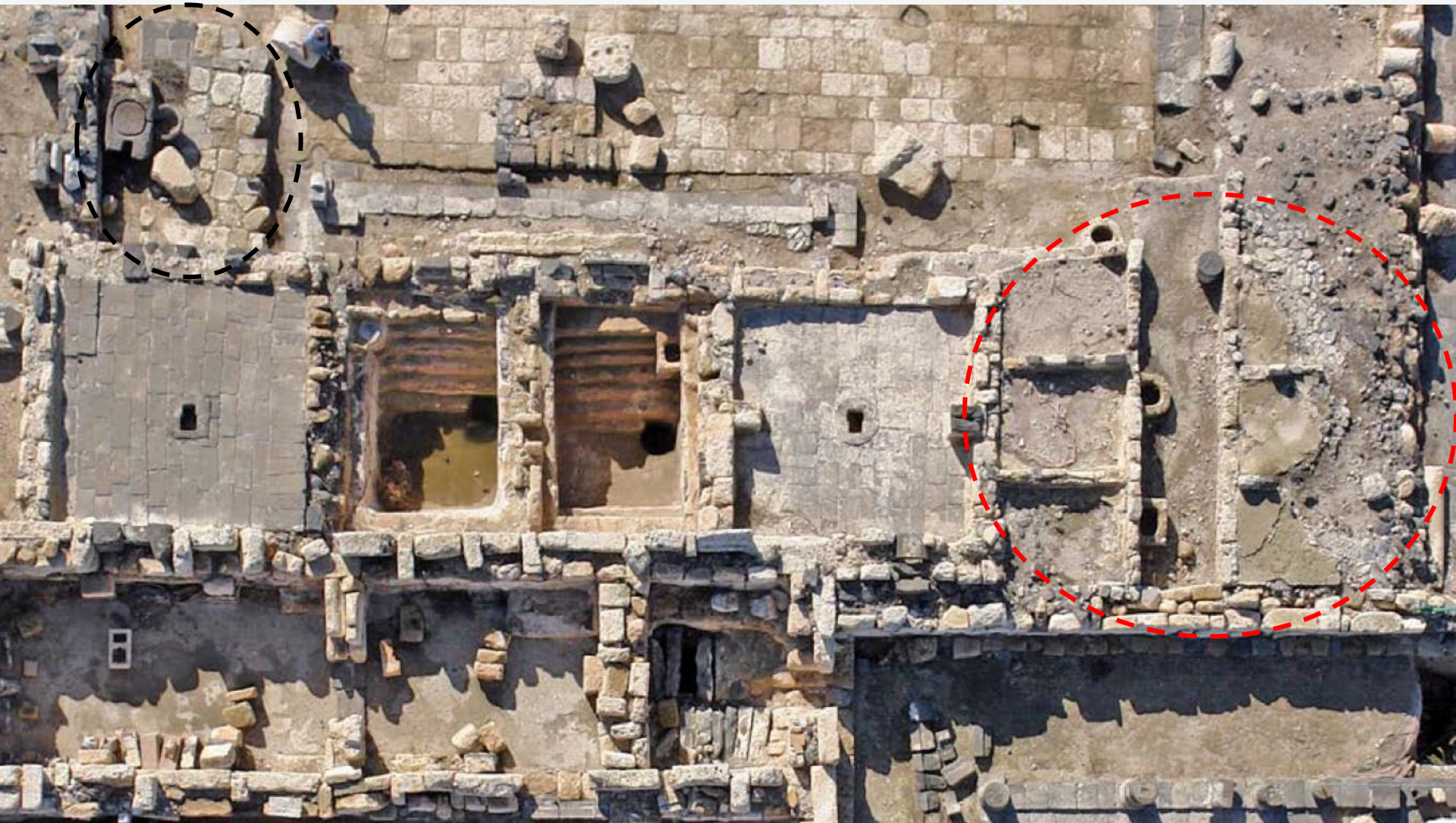
Agricultural economies

- Example: Byzantine/Umayyad winery at Hippos
- After the Hellenistic temple compound was transformed into a Byzantine church, 3 wineries were built next to it
- In use from the 6th c. to the earthquake of 749 CE



Agricultural economies

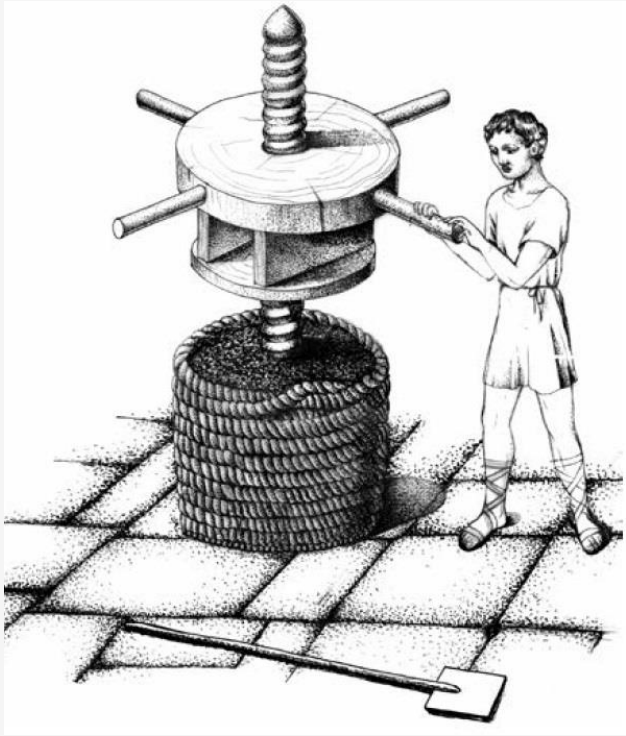
- Example: Byzantine/Umayyad winery at Hippos
- Must was produced in large (ca. 5x5 m) pressing floors with a screw press (socket visible on the picture)
- It was then channeled to the large plastered collecting vats where it fermented
- Six smaller installations to the north (marked in red) were probably used for drying grapes (making raisins)
- Note an olive screw press to the south of the wine presses (in black)



Agricultural economies

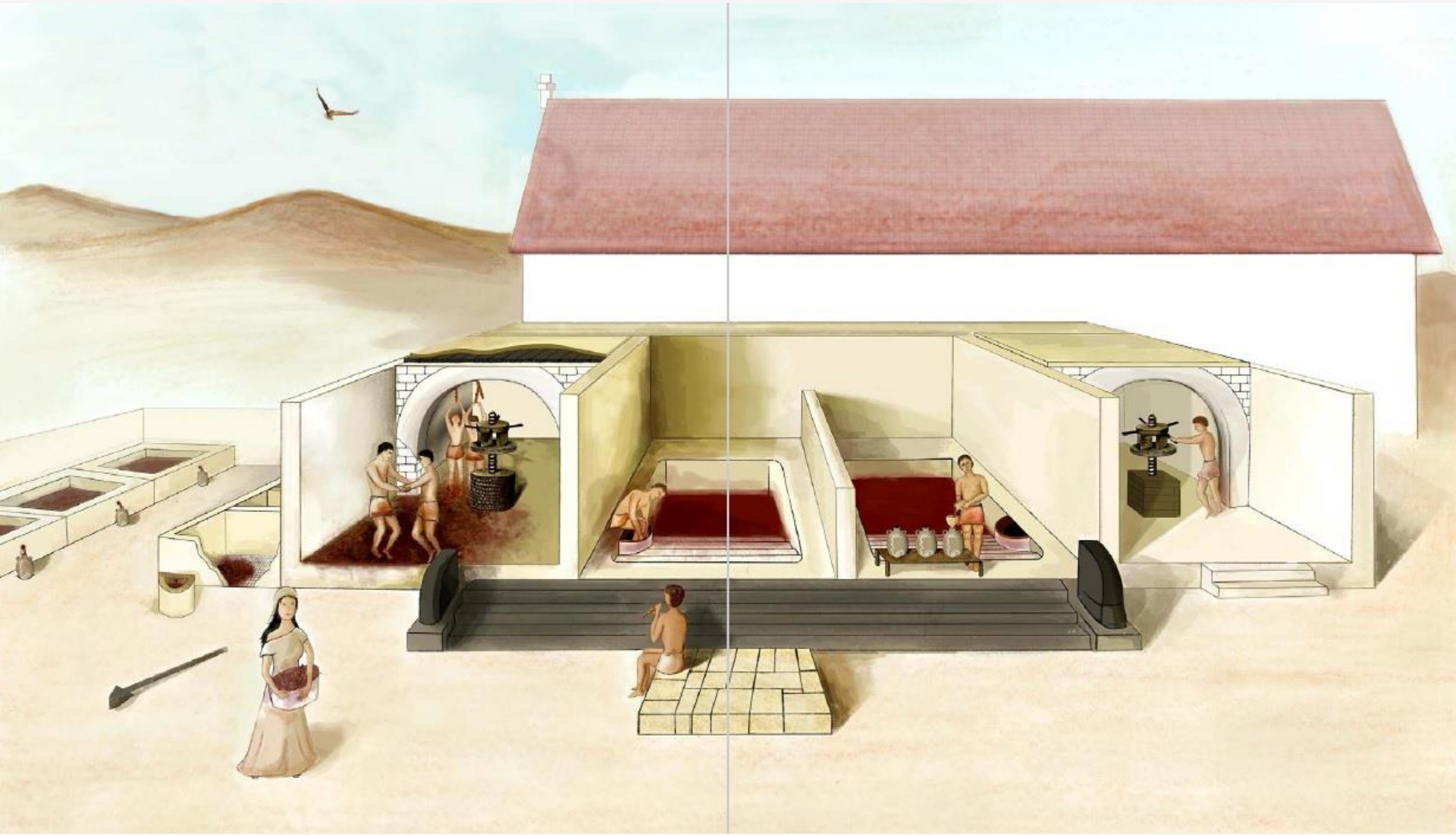
- Example: Byzantine/Umayyad winery at Hippos
- The combined capacity of the three collecting vats is ca. 15.7 m^3
- Therefore, it could process up to 78,500 litres of wine per season
- That is ca. 113.4 t of grapes
- That is ca. 9 ha of vineyards

Left: collecting vats, note the re-plastering, resulting in several layers of plaster on the walls
Bottom: reconstruction of a screw press in the pressing floor



Agricultural economies

- Example: Byzantine/Umayyad winery at Hippos
- Artistic reconstruction



Brief summary

- Cities served as economic, commercial, administrative and cultic "central places" of their *chorai/territoria*
- We know mainly about administrative boundaries of the cities and districts, as the historical and epigraphical evidence pertain mainly to them – but these sources are also problematic
- The "economic" territories, their establishment and development, are less well understood as they are not as intensively studied (there is however increase in regional surveys and landscape archaeology research in recent decade)

- There is mainly evidence for commercial activities in the cities during the Roman period, suggesting more decentralized economy
- Typical commercial space in the Levant is a colonnaded street lined with rows of shops; *agorai/fora* are rather reserved for non-commercial activities (the "political"/"cultic" sphere) – unlike in the rest of the Mediterranean where we encounter both "political" and "commercial" *agora*
- *Macellum* in Gerasa, as a type of specialized market building, is exceptional

- The ancient economy was still largely agricultural economy (don't forget Mediterranean triad!)
- The pollen evidence and remains of processing facilities suggest sharp increase in olive and wine production from the Hellenistic to the Byzantine period, and regional specialization in production for export (olive oil, perhaps wine)

- Southern Levant was further known for its dye, balsam (perfume industry in general), date, glass and bitumen
- Furthermore, it was relay station for the Arabian trade (frankincense, myrrh, spices) and overland trade with Persia