

# Exchange and Reuse: Economy and Circularity at Roman Palmyra

11–12 October 2021

Organisers:

Nathanael Andrade, Binghamton University

Rubina Raja, Aarhus University



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Bust of unknown man, IN 2833 (Photo: Tahnee Cracchiola, J. Paul Getty Museum).

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## Outline

Ancient economy has been a research topic for decades. However, recent advances in archaeological and technological practices enable us to pose new questions about urban economic patterns, which include the following: How did ancient cities like Palmyra survive? How did their people produce and manage the resources for short- and long-term needs? Were their methods circular and therefore sometimes potentially sustainable, or were they wasteful and destructive? Were their commercial transactions efficient or costly (economically, socially or ecological). Did people arrive at collective resolutions to economic and ecological problems? Or did they pursue their own divisive ends, even at the risk of social conflict and instability? To what extent was a monetarised economy the basis for economic patterns in Roman-period Palmyra?

The material culture of Palmyra offers unique potential for addressing these questions in a concrete way. The city's tax law and inscriptions have long afforded glimpses of economic life not documented for other cities. Its overseas commerce has attracted consistent treatment. A century of excavations and a series of recent in-print publications and digital enterprises have put unprecedented amounts of material objects at the disposal of scholars. These include statues, tesserae, coins, glass and metal finds as well as textiles, which can cast new light on labour specialisation, production economy, reuse and recycling, and wealth and poverty. Yet, much work remains to be done on Palmyra's intrinsic web of economic relations, the circulation of its resources and the agency exercised by many parts of its labour force. In particular the archaeological evidence from the city may shed light on the questions posed above if structured and approached with these issues in mind. Recent work undertaken within the projects *Palmyra Portrait Project* and *Circular Economy and Urban Sustainability in Antiquity*, respectively, has shown the potential and challenges which working with the archaeological evidence holds.

This workshop seeks to envision ways to use this material, largely unparalleled, to conceive of social relations and object exchange in one ancient city. While all ancient cities are different, Palmyra's unique range of surviving and excavation material will hopefully enable concepts and models useful for the study of other urban economies. With a range of papers addressing various aspects, we want to bring the archaeological evidence into a closer dialogue with the narrative about Palmyra's trade based economy and to challenge this narrative by also addressing other economies – alternative economies – which were in place in the oasis city. We also want to explore to which degree a set of independent or entangled economies were in place and to investigate their sustainability and vulnerability, their fluctuations – peaks and lows – in order to begin to understand such patterns and behaviours in a more holistic manner within this urban setting.

The workshop is funded by the project *Circular Economy and Urban Sustainability in Antiquity*.



Monumental Arch at Palmyra (Photo: Nick Brundle).

## Programme

| <b>DAY 1: Monday 11 October 2021</b>   |  |
|--|--|
| <b>Session I: Economic Modelling and Monetary Circulation</b><br><b>Chair: Nathanael Andrade</b> |  |
| 13:00–<br>13:30  | <b>Introduction</b><br>Rubina Raja and Nathanael Andrade   |
| 13:30–<br>14:15  | <b>Circuits of Exchange: Palmyrene Coins and Roman Monetary Plurality</b><br>Kevin Butcher, University of Warwick  |
| 14:15–<br>15:00  | <b>Modelling Urban Hinterland: The Case Study of Roman Palmyra</b><br>Iza Romanowska, AIAS/Aarhus University; Joan Campmany Jiméñez, Aarhus University; Rubina Raja, Aarhus University; Eivind Heldaas Seland (University of Bergen) |
| 15:00–<br>15:15  | <b>Break</b>   |
| <b>Session II: Circularity, Exchange and Social Organisation</b><br><b>Chair: Rubina Raja</b>    |  |
| 15:15–<br>16:00  | <b>Oases and Circular Economies: Exemplarity, Natural Phenomena or Survival Strategies?</b><br>Katia Schörle, Centre National de la Recherche Scientifique   |
| 15:00–<br>16:45  | <b>Palmyrene Temples: Economic Institutions?</b><br>Aleksandra Kubiak-Schneider, Independent researcher  |
| 17:00  | <b>End of Day 1</b><br>(Taxi back to hotel)  |
| 18:00–   | <b>Speakers' Dinner</b><br>Restaurant Slap Af, Studsgade 8, 8000 Aarhus C  |

| <b>DAY 2: Tuesday 12 October 2021</b>  |  |
|--|--|
| <b>Session III: Attire, Circulation and Reuse</b><br><b>Chair: Julia Steding</b> |  |
| 9:15–<br>10:00   | <b>Textile Economy in Roman Palmyra</b><br>Marta Żuchowska, University of Warsaw <b>Circular Economy at</b>          |
| 10:00–<br>10:45  | <b>The Jewellery of the Women of Palmyra</b><br>Olympia Bobou, Aarhus University                                     |
| 10:45–<br>11:00  | <b>Break</b>   |
| <b>Session IV: Funerary Life and Reuse</b><br><b>Chair: Emanuele Intagliata</b>  |  |
| 11:00–<br>11:45  | <b>Palmyra in the Light of Sale and Reuse of Funerary Spaces</b><br>Eleonora Cussini, Università Ca' Foscari Venezia |
| 11:45–<br>12:30  | <b>(Re-)Carving and (Re-)Use of Palmyrene Funerary Portraits</b><br>Julia Steding, Aarhus University                 |
| 12:30–<br>14:15  | <b>Lunch</b><br>(Afterwards speakers have free access to exhibitions – state your name at the ticket counter)        |

## Programme (cont.)

|   |  |
|---|--|
| <b>Session V: Exchange and Reuse in Time and Space</b><br><b>Chair: Nathanael Andrade</b> |  |
| 14:15–<br>15:00   | <b>Sustaining the Palmyrene Diaspora in Egypt: Exploring Exchange, Reuse and Adaptation</b><br>Matthew Cobb, University of Wales Trinity Saint David |
| 15:00–<br>15:45   | <b>Reuse of Building Material in Late Antique and Early Islamic Syria: The Evidence from Palmyra</b><br>Emanuele Intagliata, Aarhus University       |
| 15:45–<br>16:00   | <b>Break</b>   |
| 16:00–<br>16:45   | <b>Concluding Discussion</b>   |
| 17:00   | <b>End of Conference</b><br>(Taxi back to hotel)   |
| 18:00–  | <b>Speakers' Dinner</b><br>Restaurant ET, Åboulevarden 7, 8000 Aarhus C  |





View of grave towers, Palmyra, Syria (Photo: Rubina Raja).

## Abstracts

### **Circuits of Exchange: Palmyrene Coins and Roman Monetary Plurality**

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Palmyrene coins lack many of the features of civic coinages of the Roman east (imperial portraits; a clear association with the civic issuing authority; a range of denominations). Various ideas have been proposed to explain why this was so. However, they are far from unique among the coinages of the eastern Roman Empire. This paper proposes that, rather than viewing these small module coins as evidence of particular cultural preferences, they should be seen as evidence for a particular form of exchange that has been largely ignored by students of the ancient monetary economy.

## Modelling Urban Hinterland: The Case Study of Roman Palmyra

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The city of Palmyra is one of the first examples of a large urban centre whose prominence and wealth were based on specific economic activity not related to agriculture. Palmyra derived its wealth from long-distance trade, but even in the most prosperous city, which could levy significant income from taxes on the passing caravans, food security might not have been guaranteed by monetary resources. Given the distances involved and the cost of land-based transport of foodstuff through a desert, it is likely that the bulk of food necessary for the city population's survival had to be cultivated locally. Here, we evaluate the feasibility of feeding the population of Palmyra based on the carrying capacity of its hinterland. This calculation, in turn, places a hard limit on how big of a population could be sustained by the city's hinterland.

There are three steps in modelling hinterland productivity: 1. Establishing the study area, 2. Calculation of maximum possible yields and their translation into population size, 3. Calibration against climate models to evaluate the changes to the baseline productivity over time. We will use the example of Palmyra to discuss the methods involved in this research pipeline, their data requirements, limitations and robustness as well as the available data sources. While modelling hinterland land use and productivity enable establishing the maximum feasible population size of an urban centre it can also provide an insight into the sustainability of a food distribution system and its role in ensuring food security in marginal environments.

## **Oases and Circular Economies: Exemplarity, Natural Phenomena or Survival Strategies?**

Katia Schörle, Centre National de la Recherche Scientifique  
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Palmyra's economic success was surely based – in part – on its successful and careful use and reuse of its local resources. The presentation will focus on oasis agriculture and its exemplarity in terms of economic circularity and draw on examples from Palmyra as well as North Africa and the Sahara. To what extent can we say that oasis economies were by nature perfect examples of circular economies?

A major determinant in success were collective resolutions concerning water resources, which led to the successful management of water resources, their use and reuse, but strategies concerning plants, their thoughtful selection, import and spatial management were key as well.

Without neglecting diversity and individual decisions at the scale of the individual oases, I will discuss these elements as well as time-units and communal water-sharing practices attested in the archaeology and literary sources in oasis communities settled around perennial springs in the Roman desert frontier zones, and thus highlight fundamental practices and choices that modern economic concepts would qualify as circular.

## **Palmyrene Temples: Economic Institutions?**

Aleksandra Kubiak-Schneider, Independent researcher  
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Looking at the plan of Palmyra, one can conclude from seeing many temples dedicated to many deities that the religious life was very rich in this polytheistic and multicultural society. The religious situation of Palmyra was always reflected through the gods, the worshippers and the temples where ceremonies were performed. However, the Palmyrene temples were also vibrant and rich economic institutions which participated actively in the trade. Epigraphic evidence highlights the active participation of the Temple of Bel in the trade, sending and providing subvention for caravans. Tesserae mark an exchange of services and goods. This paper will focus on the economic role of Palmyrene sanctuaries ('four tribal temples' and other cultic places in the city) and on the impact of economy on the cultic life in Palmyra.

## Textile Economy in Roman Palmyra

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Since the Neolithic, textile production was one of the most important branches of ancient industry, almost equally important as food supply. Palmyra is one of the rare cities dated to the Roman period where archaeological textiles are preserved in a large number, constituting unique evidence of local production and trade. This exceptional material, together with numerous funerary sculptures representing textiles as used and worn by the Palmyrenes, epigraphic sources and scarce but important finds related to local textile production bring a lot of data concerning Palmyrene local textile industry and its involvement in both regional and long-distance textile trade. An analysis of these sources reveals that these two activities, textile production and trade, were closely related to each other and formed a complex network, involving the sourcing of raw materials from local resources, as well as from import, processing of fibres, weaving in local workshops and finishing imported fabrics, and finally exchange of goods in local, regional and distant markets. The aim of this paper is an analysis of this network and its importance for the Palmyrene economy during the Roman period.

## The Jewellery of the Women of Palmyra

Olympia Bobou, Aarhus University  
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In Palmyra, jewellery is particularly associated with women, and when depicted on their funerary portraits, they become markers of wealth, elegance, and status. Jewellery, however, is also capital, and that is true especially of objects made of precious metals, stones and pearls. In the Graeco-Roman world, jewels could form part of a woman's dowry and were property that was returned to her in case of divorce and passed down to her children after her death.

There is little information about the marriage type or types of the Palmyrenes, but it is likely that free women received dowry, as the women of neighbouring Dura-Europos did upon their marriage. In this paper, I would like to explore two things: (1) the possibility of jewellery being used as parts of dowry, and (2) if the surviving portraits may indicate modes of transferal and so reuse of jewellery within families. There are several tombs whose history of use is established and that are connected to specific families. I would like to explore the types of jewellery worn by the women of the same family in portraits spanning two or three generations for evidence of reuse.

## Circular Economy at Palmyra in the Light of Sale and Reuse of Funerary Spaces

Eleonora Cussini, Università Ca' Foscari Venezia  
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The so-called cession texts, monumental inscriptions from the funerary context, are the only source for the study of property management at Palmyra, and specifically, of family funerary property. The actual contracts of sale, written on perishable writing material, have not survived and therefore, these monumental inscriptions offer a unique insight on sale transactions. Moreover, they illustrate *reuse* of sections of the monumental tombs (and in a few cases, of the entire structure) by the new owners. In some cases, other brief epigraphs from the same context, *dipinti* and graffiti, are directly connected or result from the sale transactions and represent a small, yet significant addition. Having investigated elsewhere the formulation of the cession texts from a legal perspective, and the background of Palmyrene legal practice in the light of the Aramaic legal tradition, attention is given here to this body of texts from the economic viewpoint, in order to discuss the significance of the transactions they illustrate, in the broader context of a reflection on Palmyrene circular economy.



## **(Re-)Carving and (Re-)Use of Palmyrene Funerary Portraits**

Julia Steding, Aarhus University  
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Palmyra is well known for its funerary portraits that, in the form of wall paintings, reliefs, sarcophagi and stele, decorated the tombs of the elite. The 4,000 portraits, all produced within the timespan of approximately 250 years, can help our understanding of the carving techniques and production processes and are thus an excellent basis for the study of production patterns and the organisation of the production. This paper will, on the basis of the corpus of funerary portraits, discuss the production economy of Palmyrene portraits and the organisation of the workshops. Who was involved in the process of ordering, carving, selling and buying the reliefs? And who made the decisions in this process? In a second step, the question will be raised of how the Palmyrene carvers optimised their economy by recycling and reuse. Only a few examples of Palmyrene reliefs are known where signs of reworking are visible, but they will be used as a starting point to discuss the habit of stone use and reuse in Palmyra and tie the stone-carving industry into the broader discussion of the Palmyrene economy.

## **Sustaining the Palmyrene Diaspora in Egypt: Exploring Exchange, Reuse and Adaptation**

Matthew Cobb, University of Wales Trinity Saint David  
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Participants at this conference have been tasked with exploring the subjects of survival and sustainability in relation to ancient communities. What kind of evidence do we find for reuse and circularity in their economic activity or were certain groups wasteful and destructive? And how costly were these transactions in economic, social and ecological terms? While most of the papers in this workshop will focus on the city of Palmyra, the present paper intends to explore these subjects in relation to the Palmyrene diaspora of Egypt. This diaspora consisted of both soldiers and a trade-oriented civilian community operating in Koptos, the Eastern Desert and Red Sea region. The benefit of examining this community is that it opens up the possibility of subsequent comparative analysis with those living in Palmyra. Moreover, the environmental conditions are such that both organic and non-organic remains have survived, allowing us to address questions about recycling and reuse that are often less feasible to assess in other parts of the Empire. Consequently, we can investigate how the diaspora community adapted to different environmental, economic and security challenges, relying on different socio-economic networks and resources.

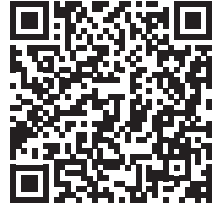
## **Reuse of Building Material in Late Antique and Early Islamic Syria: The Evidence from Palmyra**

Emanuele Intagliata, Aarhus University  
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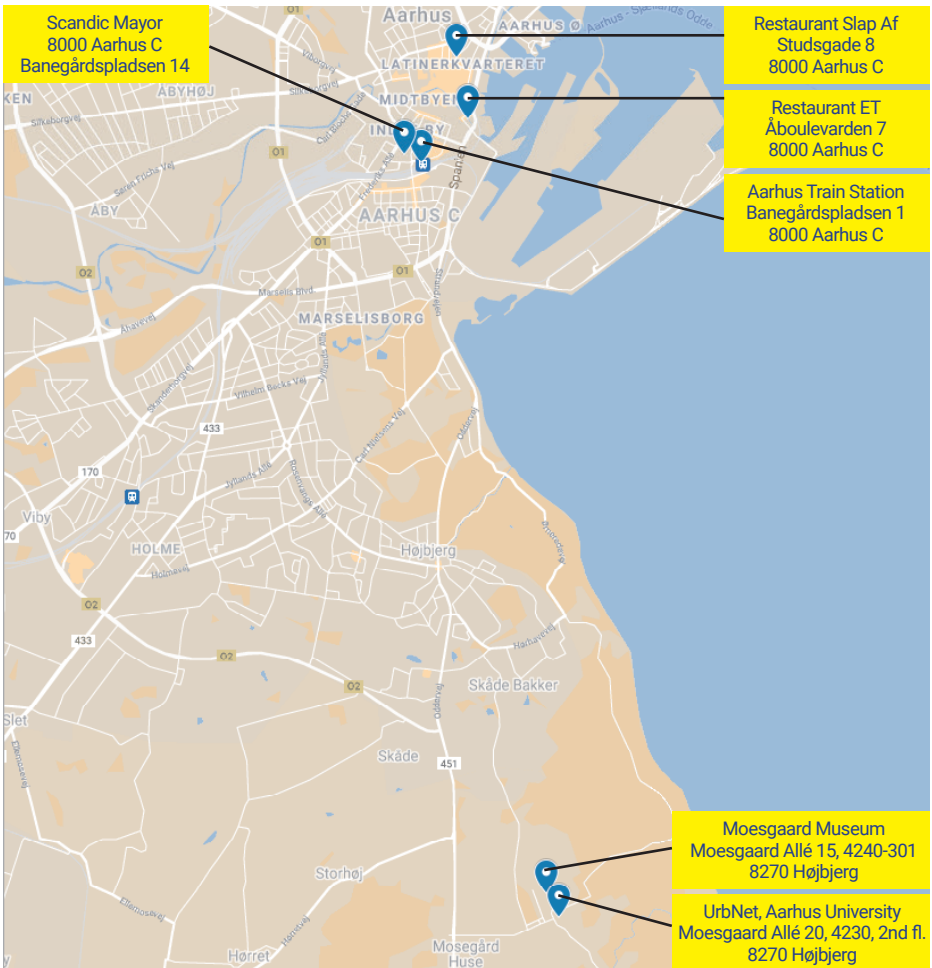
After the dramatic events of 272–273 CE, Palmyra's urban space continued to experience major changes. The reuse of architecture and sculpture for the construction of new buildings was an integral part of this urban transformation. Such a practice was ubiquitous at the site, and all the buildings constructed after the late 3rd century CE made extensive use of this type of material. However, we still lack a detailed understanding of the distribution of this practice and a thorough discussion on its significance and meaning.

The scope of this contribution is to examine how reused practices evolved from the end of the second Palmyrene revolt to the fall of the Umayyad dynasty in Palmyra based on a selection of case studies. It will argue that the way in which this material was used varied depending on the chronology and function of buildings. In so doing, this contribution will present unpublished photographic material from the Fond d'Archives Paul Collart (University of Lausanne) and the Centro di Documentazione di Storia dell'Arte Bizantina (La Sapienza, Università di Roma).

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### Venues



## Organisers



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## Conference website

<https://projects.au.dk/circulareconomy/events/2021/exchangeandreuse/>

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CIRCULARITY AT ROMAN PALMYRA  
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## Notes







**Exchange and Reuse: Economy and Circularity at Roman Palmyra**, 11–12 October 2021

**Organisers:** Nathanael Andrade, Binghamton University  
Rubina Raja, Aarhus University

**Book of Abstracts**  
**Editors:** Nathanael Andrade, Christina A. Levisen and Rubina Raja

**Front cover:** Temple of Baal-Shamin, Palmyra (Photo: Rubina Raja).

**Back cover:** Tessera from Palmyra, IN 3206 COL (Photo: Anders Sune Berg).