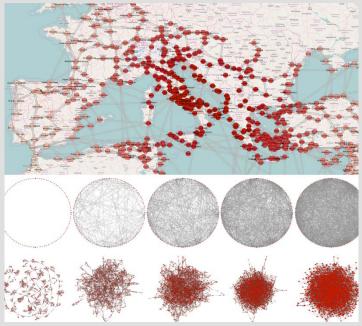
Introducing MERCURY: simulating Roman economies through big archaeological datasets and computational modelling

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How important were the social networks that structured the flow of commercial information around the Roman Empire? This question lies at the centre of debates on the Roman economy but is currently unanswerable due to two issues in Roman studies: 1) a limited use of formal computational modelling for representing economic theories and comparing the many existing conceptual models, and 2) for testing their ability to explain patterns large archaeological observed in datasets where possible. In this work I will present my research efforts in tackling these two issues in project MERCURY. The approach will be



illustrated through an agent-based model of Roman tableware distribution (Brughmans and Poblome, 2016a-b). The model represents two conflicting theory models of the degree of market integration in the Roman Empire, both of which serve as potential explanations for the empirically observed strong differences in the distribution patterns of ceramic tablewares. Results of experiments suggest that limited degrees of market integration are unlikely to result in wide tableware distributions and strong differences between the tableware distributions. I will further illustrate my ongoing work by evaluating the effects of the Roman transport system, scaling in populations of urban settlements, and copying mechanisms of market strategies.

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