units in which family members contributed their labour power for the well-being of the collective' (81). Based on Scheidel and Friesen (2009), 98.5 per cent of the total population of Italy were non-elite, as opposed to the 1.5 per cent of elites constituted by senators, equestrians and decurions. It should be more emphasised by G.-V. here that Scheidel and Friesen also concluded that 6–12 per cent were of a middling but non-elite group that still lived comfortably. As such, I am not sure G.-V.'s self-defined elite and non-elite categories are nuanced enough.

The elite *domus* forms the focus of ch. 4. This 'domus economy' (149) was led by wealthy families with the means to have business and manual labour largely carried out by subordinates, often relying heavily on enslaved persons and freedpersons. More than half of the enslaved people living within towns or cities worked for elite families (216). In these chapters, the author considers evidence that has gone unused or under-appreciated. She draws on the Greek inscriptions for the working population of Roman Italy to flesh out bilingualism and worker experiences beyond just the Latin epigraphic evidence. The life-cycles of Roman workers and issues of seasonal labour are probed alongside lesser-known aspects such as the evident job-hopping engaged in by enslaved urban workers.

Turning to the roles of non-familial labour collectives, G.-V. uses Roman associations as a lens through which to view urban interconnectedness, the clustering of occupations and crafts within cities and social networks. Collegia and family units are viewed as two intersecting axes through which to understand society and economy; however, there is a conspicuous absence of investigation into the impact of burgeoning religious associations in various economic markets and their change over time. To delve truly into the early imperial economy in Italy and the centrality of the family and the association, there needs to be much more consideration of the economic roles of Christ followers, Judaism and traditional Roman religion in shaping labour markets in this period. Likewise, although the army is dismissed as largely outside the purview of the study (8), the military as institution and source of labour within cities with garrisons (e.g. Rome from Augustus onward) needs to be more deeply considered and integrated. In her concluding discussion, G.-V. encourages future historians to include Roman history within more global histories of work and labour and to embrace the potential in comparative models. Throughout, G.-V. demonstrates the immense potential of using the modern to elucidate the ancient and of recognising the power inherent in the family. But her most powerful lesson is perhaps in encouraging historians of every historical era and place to work together as a mutually beneficial collective.

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FRANK VERMEULEN and ARJAN ZUIDERHOEK (EDS), SPACE, MOVEMENT AND THE ECONOMY IN ROMAN CITIES IN ITALY AND BEYOND. (Studies in Roman space and urbanism). London and New York: Routledge, 2021. Pp. 256, 171 b/w illus. ISBN 9780367757229. £108.00.

The impact of non-invasive technologies on archaeological research, as well as theoretical approaches such as the spatial turn, have significantly broadened our understanding of ancient cities. The perception and transformation of the built environment throughout time, its symbiotic relationship with human activity and the redefinition of the city's spatial borders are key aspects that have gained momentum in recent years (e.g. D. Filippi (ed.), *Rethinking the Roman City*, 2022). Based on a 2018 workshop as part of the Structural Determinants of Economic Performance in the Roman World research network, this volume aims to place spatial analysis at the centre of broader debates about the Roman economy.

In the introduction, the editors acknowledge the influence of social scientists such as Quentin Stevens and David Harvey, who see the built environment as the product of specific social groups and ideas, but also as a triggering factor of normative behaviour. This approach is sometimes

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explicit (ch. 6, Zuiderhoek) but also latent across the volume. Beyond the book's heterogeneous perspectives, the editors identify some relevant umbrella themes: the interactions between economic activity and movement; the importance of in-depth studies of small cities beyond the so-called Vesuvian model of Roman urbanism; and the relevance of economic connectivity between and beyond cities. The conclusions identify two major overlapping trends across chapters: studies that concern uses of spaces, and those that trace the movement of goods, people and technology.

While some contributions concern diverse geographic areas of Italy, Britain and Baetica, the volume pays particular attention to the Adriatic regions and Asia Minor. It is worth highlighting some relevant intersections between chapters and themes. The focus on regional connectivity helps reconstruct the history of partially known towns, such as the Adriatic colony of Sena Gallica (Lepore and Silani, ch. 8). The case of Aquileia's newly discovered market structures (Basso, ch. 9) reinforces the picture of its multi-directional networks, including the Balkans, the Danube and the Amber Road.

The traditional association between urbanisation and economic growth is reassessed by Poblome and Willet (ch. 5), who use isotope and botanical analysis to model a sustainability system that suggests that many cities in Asia Minor still depended on external markets. Looking at examples from Ephesos, Smyrna and Aphrodisias, Zuiderhoek (ch. 6) refers to the 'architectural embeddedness' of economic spaces to move away from models that attribute single functions to buildings, while also considering initiatives that funded them (e.g. euergetism). He shows that a closer look at these investments highlights competition between local elites, but also the impact of the imperial administration on the reconfiguration of economic and social forces.

The irregular distribution of the taberna in Roman Italy leads Flohr (ch. 3) to question not only its typicality but also the often assumed connection between these buildings and economic development. Inspired by the work of the architectural historian William Whyte, Leder-Slotman (ch. 4) contests traditional identifications of market buildings in Asia Minor and also examines the people and the physical context linked to them. Similarly, Dickenson (ch. 7) criticises the scholarly emphasis on the civic-social uses of forum-basilica buildings in Roman Britain, downplaying their economic function. The author also contests the assumption, associated with Roman architecture, that enclosures were typically isolated spaces characterised by their lack of publicness, and suggests that they could have been used for traffic and activity control. Hoffelinck (ch. 10) addresses this point by arguing that access to macella buildings sometimes seemed to be easier for people than for goods. These obstacles had obvious implications for traffic flow, but they did also facilitate supervision (e.g. fiscal) and commercialisation within these enclosures. This contribution, as well as Wallace-Hadrill's (ch. 11) and Corsi's (ch. 13), pivot around recent influential research on traffic and urban street-systems in Roman cities (e.g. A. Kaiser, Roman Urban Street Networks, 2011, and E. E. Poehler, The Traffic Systems of Pompeii, 2017). Wallace-Hadrill reconsiders ideas of Roman rational urbanism that tend to overstate for wheeled traffic and overlook alternatives such as mules or humans. Corsi discusses the Roman 'hospitality industry' (e.g. inns and taverns) and its logistics to reflect upon movement in urban space as a transformative force that heavily impacted on cultural and socio-economic processes. The infrastructures that supported the storage and redistribution of goods in the river and maritime harbours of the city of Rome are examined by Malberg (ch. 15) and by Keay, Campbell, Crawford and Moreno Escobar (ch. 16), respectively. Malberg demonstrates how the 18 km long urban river functioned as a port-system in its own right. Both contributions show the successful application of geo-archaeological and spatial models for a better understanding of the coordinated activities that linked ports with cities. Economic models are discussed by Taelman (ch. 12) and Schattner (ch. 14). The latter tests various analytic frameworks to assess the agency of the city of Munigua in the processing and commercialisation of copper and iron extracted from the near mines of Sierra Morena, Baetica, and its impact on the region's wealth. A transaction-costs approach using GIS simulation models is explored in Taelman's contribution about marble distribution in Central Adriatic Italy. This 'energyscape' shows, however, no direct connection between patterns of consumption and the cost of transport. This leads to the conclusion that this industry was not 'pure market-driven', but rather the outcome of social and political forces. The distinction between market and non-market dynamics of supply and demand, which springs from neoclassical economic theory,

is debatable and stands in contrast to the editors' suggestion to consider 'the multiplicity of forces that shaped and influenced Roman economic spaces and their uses'.

All in all, this volume is a welcome cross-disciplinary contribution to the study of ancient urban spaces and their key function as agents of economic activity and social transformation.

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HENDRIK L.E. VERHAGEN, SECURITY AND CREDIT IN ROMAN LAW: THE HISTORICAL EVOLUTION OF PIGNUS AND HYPOTHECA (Oxford Studies in Roman Society and Law). Oxford: Oxford University Press, 2022. Pp. viii + 434. ISBN 9780199695836 (hbk). £90.00.

Hendrik Verhagen has provided us with a well-balanced book on the evolution of Roman law in the field of real securities. To explore the origins of Roman debt security arrangements, V. embarks on a sweeping and refreshingly innovative discussion, encompassing diverse juristic writings, imperial constitutions and some sources for legal practice, as well as skilfully applying methods from the social and economic sciences.

In the introduction, V. lays out the time frame for his analysis, largely confined to the classical Roman law of the Principate. To his credit, he does not surrender to the recently fashionable temptation to present a study ranging from ancient legal institutions to their modern equivalents — an endeavour that rarely proves to be genuinely successful. His focus is on the legal rules and institutions connected with *pignus* and *hypotheca*, whose origin and further development lie in transactional practices, although he does not offer a more elaborate treatment of *fiducia* (5f.). Despite initial hopes, the reader is largely confronted with an analysis focusing predominantly on the theory of Roman law (except for the excerpts from the Sulpician archive — a very specific corpus coming from Italy itself). However, V. deliberately excludes from the study provincial legal practice depicted in the later papyri. To be fair, V. does express the aim of dealing with developments in post-classical law in future work — a commendable goal, as a comprehensive study of Byzantine securities remains a *desideratum*.

The chief merit of V.'s work is its methodology, offering an appealing new approach to analysis, and thus enriching the *instrumentarium* of legal-historical research. By invoking models from social-systems theory, evolutionary theory and economic theories of law, V. outlines in ch. I the analytical basis for his account of the origins and creation of further legal variants of *pignus* and *hypotheca*. He also presents the particularities of Roman law from a systems perspective, highlights the structural links between law, economics and society, and finally justifies the evolutionary perspective on legal change and continuity adopted in his study. V. is fully aware of the possible limitations of these approaches and identifies their shortcomings to demonstrate how they should be used in historical research. He adapts the sociological conceptual framework to the dogmatic grid of Roman law and makes an excellent selection of secondary literature on the subject. This work can thus be seen as a part of a broader reflection on the fundamental questions of legal history — 'why and how legal systems change?' (28).

Chs 2–3 mainly deal with the evolutionary mechanisms of Roman law in the form of the formulary procedure, the edictal system and the activity of jurisprudence, but they also map out the economic environment of the law of real security. These chapters will be of value for readers less familiar with Roman historical reality, providing the necessary context for later arguments. Chs 4–6 discuss the origins of *pignus* and *fiducia* in the Republic and their evolutionary trajectories. Ch. 5 shows in detail the transition from the forfeiture pledge to a pledge enforceable by sale, while ch. 6 focuses on the *hypotheca* and its ancestors as a non-possessory pledge that could be granted *nuda conventione*. In chs 7–9, V. investigates variants of the 'contractual' pledge recognised in the Nerva–Antonine age, i.e. the possibility of multiple pledges, as well as *pignus nominis*, *antichresis* and *hypotheca generalis*. Chs 10–11 deal with further developments under the