Money in the Roman Empire from Hadrian to the Severi: A study of attitudes and practice

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In memoriam Zeev Rubin

(1942-2009)

Abstract

The present study offers an in-depth examination of the institutional framework within which money operated as an economic agent in the Roman empire. Analyses focus on Classical Roman Law as reflected in the writings of Roman jurists from the second and early-third centuries CE. The legal sources are augmented by documentary materials, which give independent, albeit sporadic, evidence for actual practice. The thesis follows current trends in economic history to adopt approaches advanced by New Institutional Economics (NIE), while generally accepting Keynesian claims for the endogenous nature of money. Its innovative contribution is in suggesting a complexity-oriented approach to modelling the behaviour of money in the Roman empire; seeing money as a complex economic phenomenon, i.e. as a diverse and manifold apparatus which allows for new patterns of activity to be created by individuals, who self-adjust their use of it to the continuously evolving system in which they operate.

The thesis is divided into four parts. The first is introductory. The second concerns the legal institutional framework for economic interaction; with discussions generally organised according to Roman legal categorisation, and considers developments in the role allocated to money in legal definitions for exchange transaction. The third part examines two study-cases of money-related institutions, namely, the instrument of interest, and interest-bearing deposits, demonstrating how money stimulated the interconnected dynamics within and between legal traditions operating under Roman regime. The fourth and last part is dedicated to a more general analysis of the complex nature of Roman money, attempting to model the historical example of Roman money with the help of complexity-oriented visualisations.

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List of Abbreviations

Abbreviations of Latin texts follow P. G. W. Glare, (ed.), *Oxford Lain Dictionary*, Oxford: Oxford University Press, (1982).

Abbreviations of Greek texts follow H. G. Liddell and R. Scott, *Greek Lexicon, 9th ed.; with a Revised Supplement*, P. G. W. Glare and A. A. Thompson (eds.), Oxford: Oxford University Press (1996).

Deviations from these are as follows:

CJ	*Codex Justinianus*
CTh	*Codex Theodosianus*
Demos. *Timocr*.	Demosthenes, *Against Timocrates*
Dio	Dio Cassius
Dio Chrys.	Dio Chrysostomus
Gai. *Dig*.	Gaius, *Digest*
Gai. *Inst*.	Gaius, *Institutiones*
Herm. *Dig*.	Hermogenian, *Digest*
Plat. *Rep*.	Plato, *Respublica*
Plin. *NH*	Pliny the Elder, *Naturalis Historia*
Var. *LL*	Varro, *de Lingua Latina*
Var. *RR*	Varro, *Res Rusticae*
Xen. *Anab*.	Xenophon, *Anabasis*

Abbreviations of documentary evidence follow the *Checklist of editions of Greek, Latin, Demotic and Coptic papyri, ostraca and tablets*, fifth edition, J. F. Oates, R. S. Bagnall, *et. al.* (eds.), Oxford: The American Society of Papyrologists; available online at http://library.duke.edu/rubenstein/scriptorium/papyrus/texts/clist.html.

Abbreviations of inscriptions follow *The American Journal of Archaeology*, and otherwise *Der Neue Pauly* (reprinted in *Brill's Neu Pauly*).

Abbreviations of Journals follow *L'année philologique*, and otherwise *The American Journal of Archaeology*.

Abbreviations of dictionaries, catalogues, and encyclopaedias are as follows:

BMCRE	*Coins of the Roman Empire in the British Museum* (London 1923–).
LSJ	H. G. Liddell and R. Scott, *Greek Lexicon, 9th ed.; with a Revised Supplement*, P. G. W. Glare and A. A. Thompson (eds.), Oxford: Oxford University Press, (1996).
Lewis and Short	C. T. Lewis and C. Short, *A Latin Dictionary: founded on Andrews' edition of Freund's Latin dictionary*, Oxford: Clarendon Press; New York: Oxford University Press, (1984).
OED	*Oxford English Dictionary*, Oxford: Oxford University Press.
OLD	P. G. W. Glare, (ed.), *Oxford Latin Dictionary*, Oxford: Oxford University Press, (1982).
RPC	*Roman Provincial Coinage* (1992-). Website: http://rpc.ashmus.ox.ac.uk/
RE	*Paulys Realencyclopädie der classischen Altertumswissenschaft*.
TLL	*Thesaurus Linguae Latinae. editus auctoritate et consilio academiarum quinque Germanicarum Berolinensis, Gottingensis, Lipsiensis, Monacensis, Vindobonensis*, Leipzig: Teubner, (1900-).

A Note on Editions of Primary Sources and Translations

The text edition of Justinian's *Digest* is that of Mommsen and Kruger.

The text edition of Gaius's *Institutiones* is that of Nelson and Manthe (1999), and otherwise that of De Zulueta (1953).

Unless otherwise indicated all English translations of Gaius' *Institutiones* follow Gordon and Robinsom (1988); and those of Justinian's *Digest* follow Watson (1985).

A Note on Dates

Unless otherwise stated, all dates are CE.

Part I: Introduction

Chapter 1: Methods and Approaches

Natura enim rerum conditum est ut plura sint negotia quam vocabula.

Ulp. *Dig*. 19.5.4 (30 *ad sab*.)[1]

1.1. Introduction

When I began my investigation of Roman attitudes towards money I started with a rather traditional approach. Guided by a need to bring order to the vast amount of relevant material I turned to the helpful tool of categorisation. Categorisation seemed not only the proper but actually the only possible way to deal with the abundance of evidence, ideas, perspectives and explanations concerning the nature, characteristics and operation of Roman money. I tackled the subject following two lines of categorisation. The first studied various monetary instruments used in the Roman empire; that is, objects and obligations used as money. Yet, the benefits of this categorisation—namely, the appreciation of the role of non-coined money in the Roman economy, and the significance of monetary credit in the Roman world—already have been recognised by scholars for some years now.[2] Hence, important and helpful as this categorisation is, it did not offer an innovative approach to monetary practices in the Roman empire, nor to Roman attitudes towards money. The second line of categorisation divided discussion according to the types of economic activities, in which Romans used money. This turned

[1] Ulp. *Dig*. 19.5.4 (30 *ad sab*.): 'For it is implicit in the nature of reality that there are more types of transactions than names for them'.

[2] Mrozek (1985); Harris (2006); (2008c); Hollander (2007). On imperial expenditure made in non-coined payments, see Howgego (1990) 11-15. On the role of credit money in rural Roman Egypt, see Rathbone (1991).

out as generally following Roman juristic categorisation into legal contracts, which dictates the institutional framework within which economic interaction occurs.[3] These include straightforward exchange transactions, such as sale (*emptio venditio*), lease/hire (*locatio conductio*), or loan (mainly *mutuum* and *stipulatio* creating *pecunia credita*), as well as other interactions in which money carries economic significance,[4] such as, safekeeping (*depositum*), gift-giving (*donatio*), or inheritance (*hereditas*).

This "manual approach"—listing monetary instruments and categorising evidence according to economic activities based on types of legal contracts—did not prove satisfactory. As the body of evidence progressed I found the same money-related institutions being used across the spectrum of economic activity. Traditional categories—such as sale, hire, etc.—often interacted with one another, and furthermore, overlapped. The same pecuniary devices appear in various types of transactions. For example, paying monetary *arra*—i.e. earnest money given ahead as guarantee or first instalment—may be found in both *emptio venditio* contracts and *locatio conductio* ones; credit is relevant not only for lending operations but also for 'Sale on Delivery' transactions;[5] interest rates (*faenus*/*usura*) are referred to and used in a much wider spectrum of activities than just narrowly defined loans. The same concepts and terminology were applied in describing the apparatus of transactions whether these were facilitated via money or conducted in kind (both *arra* and *usura* serve as good examples). Patterns of thought, which directed sophisticated credit apparatus, and which can be detected in banking operations as well as

[3] North (1990); (1991).
[4] As opposed to interactions in which monetary instruments carry religious significance (as in votive offerings, or dedications), or aesthetic one (as in jewellery, or other decorative ornaments).
[5] On which, see pp. 185-6.

in elite finance,[6] can also be traced in the agricultural management village-based economic environment, where credit facilitated transactions which were conceptualised in monetary units though often conducted in kind.[7]

I was looking for an economic model which could accommodate all of these phenomena and would help to bring order to the immense corpora of legal and documentary evidence. For this purpose I focused on identifying basic (as well as more nuanced) concepts used in the texts, hoping that these would provide "building blocks" to construct a configuration of the amorphous notion of money as conceptualised by the Romans. Yet, new connections repeatedly sprang up, throwing my definitions back into a semi-chaotic state, where everything was connected to everything. Determined to find models, hypothetical yet not irrelevant to the historical example of Rome, which could point out patterns within the evidence, I turned to network and complexity theories. At the start I was somewhat reluctant to take this path, which seemed to be leading to uncertainty. I found it difficult to leave the safe waters of traditional neoclassical economics, with its unrealistic yet so-helpful-for-model-construction assumptions, the easily read graphs (usually in two or three dimensions), the reassuring totems of economics.[8] Being somewhat sceptical toward "buzz-words", and somewhat conservative as to the simplifying role of models,[9] complexity economics was my last resort; at which I arrived not so much thanks to systematic study of economic theory, but rather via

[6] Andreau (1987); (1999); Rathbone and Temin (2008).
[7] Rathbone (1991); Kehoe (1997); (2007).
[8] To use the metaphor of Leijonhufvud (1981), who wrote a spoof anthropological article about the two castes within the tribe of the Econ, the Micro-caste and the Macro-caste, each with its own totem, which look remarkably similar to each other, i.e. the supply-demand and the LM-IS curves crossing one another in the point of equilibrium.
[9] As put by Snowdon and Vane (2005) 4: 'Theories, by definition, are simplifications of reality. This must be so given the complexity of the real world'.

attempts to create a visualisation based on the historical evidence.[10] At the end of the process I do not adopt a specific economic model to explain the example of Roman money; rather, I rely on the complexity perspective in economics[11] in order to analyse Roman monetary practices, and through it, hopefully, Roman attitudes towards money.

The thesis is divided into four parts. The first is introductory: explaining the methodology applied, defining concepts used in modern discussions as well as in ancient texts, and discussing problems arising from the evidence (Chs. 1-2). The second part concerns the institutional framework within which Roman money operated. It considers the role of money in defining economic interaction, illustrating how essential it was for determining the nature of exchange transaction, and the status of the parties involved. It starts with some underlying observations concerning the institutionalisation of money and Roman legal classification of exchange (Ch. 3); then more detailed discussions are dedicated to three major formats of exchange: sale (Ch. 4), lease and hire (Ch. 5), and loans (Ch. 6). Part Three discusses two study-cases of money-related institutions, the analyses of which illuminate fundamental features in Roman attitudes towards money. Ch. 7 examines the instrument of interest and its multifarious applications in Roman law; while Ch. 8 discusses interest-bearing deposits, as reflected in evidence for three different legal systems operating under Roman regime, showing interconnected dynamics within and between legal traditions. The fourth and last part is dedicated to a more general analysis of the complexity-oriented nature of Roman money (Ch. 9), proposing to model it graphically with the help of complexity inspired visualisations.

[10] Davies (2005), who offers a survey of visualisations of ancient economies.
[11] On which see pp. 31-4, and Ch. 9, below.

1.2. Methodology

This section has three parts. The first concerns ancient economic history. It briefly surveys the state of research on ancient money, and gives some clarifications concerning the study of ancient economic history and its relation to the social sciences. The second part considers economics. It begins with New Institutional Economics, continues with monetary theories, and ends with the complexity perspective in economics. By no means is it a survey of the history of economic thought. Rather, discussions concern the methodologies applied by different economic schools of thought, especially with regard to money, examining how these may, or may not, support an analysis of the historical example of Roman money. The third and last part of this section deals with the problem of the evidence, clarifying which types of evidence are used, in what way, and why.

1.2.1. Ancient economic history

The Romans were well familiar with the use of money. Ancient texts contain numerous references to money and its economic usages, and combined with the abundance of numismatic evidence leave no doubt that money was widely used in the Roman world.[12] For many years the study of Roman money—and of ancient money in general—focused on numismatic evidence; with the underlying assumption that coins represented the main (if not the sole) monetary instrument.[13] This assumption placed numismatic evidence at the centre of enquiry in the study of ancient money, and has

[12] Howgego (1992).

[13] Harris (2006) 1-2; (2008b) 1; Williams (2009), who admits that 'studies of money in the Republican period (including those of the present author) have been dominated by a numismatic perspective which has tended to stress the 'hard money' aspects of the Republican monetary system, and to ignore evidence for the pecuniary exploitation of other kinds of asset'.

guided, even as recently as the 1990s, prominent works published on the topic.[14] The last three decades have witnessed a growing tendency in the scholarship to depart from this approach. No longer is numismatics considered the sole, or even main, source for our knowledge on ancient money.[15] Discussions are widened to include a whole spectrum of textual evidence, from laws and statutes,[16] through personal documents and letters,[17] to tragedy and philosophy.[18] While some of these texts provide numerical economic data (prices, wages, taxes, interest rates, etc.),[19] others give indication of less quantifiable economic conditions; for example, the financial advantages gained from social networks (such as *amicitia* or *collegia*),[20] the ways in which money influenced attitudes towards the divine,[21] or how it affected conventions concerning personal relationships within the public sphere.[22]

When looking at the study of Roman money, three developments in particular should be stressed. First, new technologies and testing methods are allowing coin analysis as never before, and support the claim that Roman coins contained fiduciary features.[23] Second, analyses of price evidence, heavily based on papyrological material, provide

[14] E.g. Duncan-Jones (1994); Howgego (1995); Wolters (1999); to which should be added also Crawford (1975); (1985). By contrast, Kurke (1999), who in many respects is an "early bird" of the attitudes later manifested in (some of the) studies published in the past decade. For a survey of the relevant literature published prior to 2000, see von Reden (2002).
[15] Though there are scholars who think otherwise; e.g. Katsari (2011).
[16] E.g. Duncan-Jones (1990); (1994); Mrozek (2001).
[17] E.g. Rathbone (1991); Harris (2006); Hollander (2007).
[18] E.g. Kurke (1999); Seaford (2004); (2008); Hollander (2007); Kay (2009).
[19] Though see Duncan-Jones (1997), who points to numerical distortions in literary evidence.
[20] Andreau (1999); Verboven (2002); Hollander (2007); Liu (2008); Stelzenberger (2008).
[21] Dignas (2002); Seaford (2004), whose part two called 'the making of metaphysics' deals, among other topics, also with mystery cults.
[22] Kurke (1999); Schaps (2004); Seaford (1994); (2004); Eckhardt (2011).
[23] Meaning that the purchasing power of coins was higher than the (intrinsic) value of their metallic content; Butcher and Ponting (1995); (1997); (2005a); (2005b), with further results yet to be published; Woytek *et al*. (2007a); (2007b); Ponting (2009). Also, Seaford (2004) 136-46, who argues that from their start ancient coins were in essence fiduciary.

proxies for long-term tendencies in the purchasing power of Roman money, and support a general trend of price stability, which appears inconsistent with evidence of coin debasement.[24] Third, comprehensive studies of ancient banking operations relying on documentary and legal evidence enable better understanding of credit mechanisms within Rome's monetary economy,[25] and provide the evidential basis which supports the recent emphasis given to credit and its importance in the Roman world, as well as to the use of monetary instruments other than coinage, sometimes referred to as "negotiable paper money".[26]

The last decade has witnessed an increasing interest among historians concerning money in antiquity: what money was, how it functioned, and in what ways it influenced life and society; for which the following paragraphs offer a short survey.[27]

David Schaps[28] studied the beginning of coinage, the spread of its use, and the process of monetisation in ancient Greece.[29] His study follows the methodological guidelines offered by mainstream neoclassical economics,[30] and classical economic anthropologists.[31] He bases his investigation on the assumption that 'money is normally a

[24] Strobel (1989); Drexhage (1991); Wassink (1991); Rathbone (1996); (1997); Szaivert and Wolters (2005).
[25] Andreau (1987); (1999); Bogeart (1968); (1994); (2000); (2001); Bürge (1987); Camodeca (1992); (1999); (2003).
[26] Andreau (2000) 785, who states that 'banks created additional purchasing power'; Rathbone (2003) 226, who states that 'paper transactions free monetised exchange from the heavy constraint of the supply of coinage'; Harris (2006); (2008c); Hollander (2007). On credit money in ancient Greece, see Cohen (1992); (2008).
[27] For a survey of earlier scholarship, see von Reden (2002).
[28] Schaps (2004).
[29] *Idem* 2, who says that his intention is 'to trace the invention of coinage and its introduction to ancient Greece, to demonstrate how it differed from its predecessors, and to show how its influence proceeded through the society that adopted it until most areas of that society had been fundamentally altered'.
[30] What Figueira (2006) 467, termed 'conventional investigation from an economic historical perspective'.
[31] E.g. Bernhard Laum, Paul Einzig, Karl Polanyi, and Paul Bohannon; Schaps (2004) 8-14, 194.

physical object whose value is widely recognised',[32] adopting a "preliminary definition" of money as 'anything that is widely used for making payments and accounting for debts and credits'.[33] One of his 'central propositions', as he puts it, is that 'when we speak historically, *the invention of coinage was the invention of money*: that is, the concept that we understand as "money" did not exist before the seventh century BCE, when coins were first minted'.[34] According to Schaps, ancient Greeks were the first to develop "all-purpose money", i.e. money which performs the following four usages: medium of exchange, means of payment, unit of account, and store of wealth.[35] The latter, he claims, is the most distinctive novelty of the Greeks' abstraction of money, accomplished via the invention of coinage and its wide economic and social spread.[36]

Richard Seaford investigated the impact which the introduction of coined money had on ancient Greek thought, as reflected in tragedy, poetry and philosophical writing;[37] with the conclusion that 'the rapid monetisation of the Greek city-states of the sixth century BC was an important factor in the genesis and form of the earliest 'philosophy' and of tragedy'.[38] Unlike Schaps, Seaford emphasises the abstractness of money as an idea, stating at the start of his investigation that 'Money is, puzzlingly, both a thing and a relation. And the relation—because it is one of power that is interpersonal and

[32] Schaps (2004) 4.
[33] Schaps (2004) 3-4; after Davies (1994) 29.
[34] Schaps (2004) 15 (emphasis is Schaps').
[35] *Idem* 12-14. However, economists usually consider the former two categories as one, listing only three main usages of money: medium of exchange, unit of account, and store of value; Wallace (2008).
[36] *Idem* 16: 'money was wealth'; 175: 'the conceptual revolution that identified coins with wealth turned money into an item of which one could never have too much, or, indeed, enough'; 196: 'a Greek could identify wealth itself with "plenty of coins"'. For objections to Schaps' prepositions, see Kroll (2005).
[37] Seaford (2004).
[38] *Idem* 315.

unspecific…—tends to be mystified, to be disguised as a thing'.[39] His approach is one of complexity and abstractness, offering 'a sophisticated treatment of the cultural, psychological, and philosophical ramifications of monetisation in archaic Greece'.[40] While conducting an in-depth 'discussion on the nature of value and the consequences of its abstraction for ancient Greek society',[41] Seaford 'boldly argues that a mentality conditioned by the usage of coins and by monetary calculations shaped major insights of archaic metaphysics,'[42] pre-Socratic philosophy,[43] and tragedy.[44]

Sitta von Reden[45] studied the introduction of coinage in early Ptolemaic Egypt relying on New Institutionalism and approaches developed in Anthropology.[46] She examines how coined money was institutionalised through taxation, how this influenced exchange, and how it altered banking operations, debt and credit relationships. Monetisation is seen as a comprehensive process, which involved 'the introduction of coinage as well as the development of formal (legal) and informal (social) institutions that regulated monetary exchange and the use of coins'.[47] Von Reden describes Egypt's monetisation as mainly a top-down process arguing that money was part of the incentive

[39] *Idem* 1.
[40] Figueira (2006) 467.
[41] Blanshard (2006) 169.
[42] Figueira (2006) 468.
[43] Thereby reducing the 'importance traditionally placed on political change', arguing that it was the economy which was 'radical in Ionia, not its politics'; Blanshard (2006) 169. Similarly, but with a rather negative tone, see Figueira (2006) 468: 'experts in ancient philosophy will protest against the priority given to economic circumstances'.
[44] Seaford (2004) 308: 'Tragedy developed out of the Dionysiac mysteries, but was shaped also by experience of the recently monetised polis, and in particular of tyranny'.
[45] Von Reden (2007).
[46] In particular, Fernando Coronil's *Magical State* (1997), who deals with twentieth-century Venezuela and the connection between its natural resource (petroleum) and its state-issued money; and David Woodruff's *Money Unmade* (1999), who describes how barter was employed by local authorities in Russia in the 1990s; von Reden (2007) 13-16.
[47] Von Reden (2007) 5.

structure of the Ptolemaic regime.[48] Nevertheless, she emphasises that monetisation drew on communication, negotiation and regional politics; and that the Ptolemaic economy as a whole can be characterised as having a "binary" nature: alongside economic activities based on coined money, there was the large cereal producing sector dominated by monetary media other than coinage.

David Hollander produced a systematic summary of the monetary instruments used in Late Republican Rome.[49] He openly employs modern economics—in particular the famous Quantity Theory of Money,[50] and neoclassical as well as Keynesian theories of demand for money[51]—while constructing discussion around four main usages of money:[52] unit of account, store of wealth, means of payment, and media of exchange.[53] Following classical Roman jurists,[54] Hollander advances a widening interpretation of the Latin word *pecunia*, seeing it as referring first and foremost to 'wealth';[55] hence, as embracing a wide array of assets and monetary instruments, including together with coinage also perishable goods, livestock, bullion, and "paper-based" financial instruments (under which category he lists *permutationes*, *syngraphae*, *partes*, and *nomina*).[56] Hollander proposes to divide the use of money in Republican Rome according to four 'monetary zones': governmental, which largely dealt with payments and taxes made in coins; urban, where demand for coined money increased during the late Republic; rural,

[48] Monson (2009).
[49] Hollander (2007).
[50] On which, see M. Friedman (2008); and pp. 25-26, below.
[51] Hollander (2007) 137-44.
[52] *Idem* 59-86; similar list appears in Schaps (2004) 12-14.
[53] And, see n. 35 above, on the main usages of money.
[54] Namely, Gai. *Inst*. 3.124; Ulp. *Dig*. 50.16.178 (49 *ad sab.*); Herm. *Dig*. 50.16.222 (2 *iur. epit.*); all discussed in Ch. 2, below.
[55] Hollander (2007) 1-14.
[56] *Idem* 15-30, on coinage; 31-9, on bullion; 39-52, on "paper-based" financial instruments.

where coin usage was of relatively limited importance, with exchange often conducted in kind; and commercial, where long-distance trade encouraged the use of "paper-based" financial instruments to overcome a need to transport large quantities of coins.[57]

William Harris[58] offered an overview of the importance of non-coined money in the Roman empire, arguing that, alongside commodities used as money,[59] it was credit money that had 'added very significantly to the Roman Empire's money supply',[60] mainly through the use of what he calls "negotiable paper money", i.e. obligations recorded in writing which later serve as financial instruments applied in economic transactions.[61] Harris openly relies on Keynesian and post-Keynesian economics,[62] claiming that credit money 'enabled the Romans to extend their money supply far beyond the limits of their monetized metal';[63] with the potential of accommodating an expansion in economic activity.[64] As for the relation between money supply and economic growth in the Roman world, Harris claims that 'shortage of money was not to any important extent a brake on growth. What impeded sustained economic growth in Roman antiquity was not a shortage of money, but mainly the failure to adopt technologies… that would have allowed the Romans to escape from the Malthusian impasse'.[65]

Harris also edited a collection of articles on Greek and Roman money, most of which were presented at a conference at Columbia University in 2005.[66] There is no need

[57] Hollander (2007) 87-136; Williams (2009).
[58] Harris (2006); (2008c).
[59] Harris (2006) 17.
[60] *Idem* 24.
[61] Harris (2006) 2-3, 8-17; (2008c) 182-95.
[62] Harris (2006) 7, 15; (2008c) 180-1.
[63] Harris (2006) 24.
[64] *Idem* 18.
[65] *Idem* 24.
[66] Harris (2008a).

here to review each of the thirteen articles of the volume;[67] suffice it to state that it offers a diverse and thought-provoking assemblage of current views and approaches in the study of Greek and Roman monetary systems. The "meta-questions" at the background of the collection concern non-coined money: to what extent was it used in the Greek and Roman worlds after the introduction of coinage, and whether it had a continuing and/or significant impact on economic activity.[68] While some of the contributors stress the uniqueness of coined money,[69] or rely more heavily on numismatic evidence;[70] others stress the importance of non-coined money, both precious metals,[71] and credit money.[72] In addition to these "meta-questions" the articles in this volume deal with a variety of issues (Harris lists ten[73]), which affect the ways in which money may be historicised: the relation between bullion and coined money, the spread of coinage, the cultural and economic institutions which supported its use, the extent to which large transactions were based on non-cash money and how it affected economic performance, the elasticity of ancient (i.e. Greek and Roman) money supply with regard to both coinage and other monetary assets, the relation between money supply and prices, and how to measure monetisation and monetary integration in different parts of the ancient Mediterranean.

Barbara Stelzenberger published a book on Roman finance and capital management in the western provinces, based on her doctoral thesis submitted to the Freien Universität Hamburg,[74] in which she argues in favour of the sophistication of the

[67] For reviews, see Ireland (2009); von Reden (2009).
[68] Harris (2008b) 2.
[69] E.g. Schaps (2008).
[70] E.g. Andreau (2008b); Katsari (2008).
[71] E.g. Kroll (2008); Andreau (2008b).
[72] E.g. Cohen (2008); Harris (2008c); van Minnen (2008); Lo Cscio (2011).
[73] Harris (2008b) 3-10; von Reden (2009) 495.
[74] Stelzenberger (2008).

Roman monetary credit system. Her analysis focuses on social networks and how these enabled the creation of credit money in the Roman empire. Great emphasis is given to the Roman household (the *familia*, especially the *familia urbana*), and in particular to the role allocated to *dispensatores* in the *administratio pecuniae* of the *dominus* in a system of law which did not know direct representation. Apart from social networks within the Roman household, the study also stresses the importance of friendship networks (*amicitia*) in transferring money between branches of the same household. Where such networks were inaccessible, the intermediary role in supplying credit was taken by bankers—in particular *argentarii*, and when the parties did not hold accounts with the same *argentarius*, also *societas argentariorum*—which allowed creating a clearance mechanism in which sums of money could be transferred via an accounting system of written obligations (*rationes* and *nomina*) without the transfer of actual cash money (i.e. coinage).[75]

More recently, Andreas M. Fleckner published a thorough and detailed study of ancient capital associations, subtitled 'a contribution to the conceptual and historical foundations of the corporation'.[76] This regrettably was not available to me while writing the thesis,[77] but must be closely consulted if the present dissertation is to appear in print.[78] Sitta von Reden published, as part of the Cambridge series of Key Themes in Ancient History, a short book dedicated to money in antiquity,[79] which generally summarises the state of research, while emphasising mainly Greek and Hellenistic

[75] See review by Fleckner (2011).
[76] Fleckner (2010).
[77] I would like to thank my examiner, Prof. A. J. B. Sirks, for bringing this study to my attention.
[78] For reviews, see Sirks (2012); Meissel (2013).
[79] Von Reden (2010).

monetary history. In the following year a number of studies, all relevant the current topic of research, have been published. Constantina Katsari published a book, based on her doctoral thesis, dedicated to Roman money in the eastern provinces, focusing on numismatic evidence from Greece and Asia Minor.[80] However, even discounting problems which arise from the book's presentation and interpretation of hoard finds,[81] the economic questions which it raises often do not find satisfactory answers,[82] while the economic theories applied in the analysis (Gresham's Law, Metallism) offer no novelty.[83] In the same year a collection was published dedicated to the theme of quantifying monetary supplies in Greco-Roman times, edited by François de Callataÿ, which includes eighteen articles based on papers presented in 2008 in Rome, in a conference hosted by the Academia Belgica and the Istituto Italiano di Numismatica.[84] However, apart from the paper of Elio Lo Cascio dedicated to the role of credit in Roman money supply,[85] articles in this volume generally concentrate on coinage and coin production. Lastly, as far as I am aware, Benedikt Eckhardt and Katherina Martin edited a collection of five articles, based on a conference which took place at the start of 2010.[86] This collection advances approaches developed in sociology and communication science, looking at the role of ancient money as a mediator of normative values, and an active medium of communication (what the editors call 'Handlungsorientierung').[87] However, discussions

[80] Katsari (2011).
[81] See review by Rowan (2011).
[82] See review by Temin (2011); Metcalf (2012).
[83] Much work on Roman coinage relying on Metallism and Gresham's Law was published in the 1950s, e.g. Grant (1954); Bolin (1958).
[84] De Callataÿ (2011).
[85] Lo Cascio (2011).
[86] Eckhardt and Martin (2011a).
[87] Eckhardt and Martin (2011b) 8.

focus heavily on numismatic evidence, analysing mainly coined money, rather than money as an abstract concept independent of its eventual materialisation.[88]

Though much work has recently been published on ancient money, I believe an analysis of Roman attitudes towards money in imperial times is still lacking. The current work offers such an analysis. It studies the institutional environment of Roman monetary practices as reflected in legal and documentary evidence, with the help of methodologies offered by various economic schools of thought. Emphasis is on the general public; hence, governmental use of money—despite its great influence on money supply—largely is left outside the frame of discussion. It should be made clear that the present study does not aim to create a database of numerical or literal values,[89] but rather it offers an in-depth examination of the institutional conditions affecting the economic use of money in the Roman empire, and how these may have reflected, as well as have been influenced by, Roman attitudes towards money.

The chronological constraints of the study are determined by political events, beginning with Hadrian's accession to power in 117 CE and ending with Severus Alexander's murder and the end of the Severan dynasty in 235. The closing date is chosen mainly due to limitations imposed by the historical evidence, which become patchier for the period following the Severan emperors;[90] however, the choice is also

[88] See review by Filippo (2012).

[89] Duncan-Jones (1994), who makes substantial effort to produce a numerical quantification of Rome's monetary economy; Andreau (1999) 125-31, who offers an overview. On quantification and the Roman economy, see Bowman and Wilson (2009). On quantifying monetary (namely, coin) supply in the Greek and Roman world, see De Callataÿ (2011).

[90] Additionally, numismatic studies currently conducted are likely to shed new light on monetary conditions in the third century; Butcher and Ponting (1995); (1997); (2005a); (2005b); with further metallurgical results yet to be published; and The Roman Provincial Coinage Project (http://rpc.ashmus.ox.ac.uk/), which already produced a number of catalogues: Burnett, Amandry and Ripollès (1992), on the Julio-

justified by the general tendency in the scholarship of the last decades to view the Severan emperors as being 'more continuators of the Antonines than precursors of Diocletian'.[91] The starting date is not chosen due to evidential constraints, but rather for its importance in Roman legal history. In many respects Hadrian's legislation provided the legal framework for Roman economic and social conditions in the century and a half that followed it. All in all, the period here under research covers most of the second century and the first three decades of the third; with the aim of contributing to the understanding of the Roman economy in an era of relatively continuing political stability.

The shift of focus regarding the historical materials used in the study of ancient money, and the greater emphasis given to the use of monetary instruments other than coinage, should be attributed to a number of factors: first, the publication of huge numbers of papyri and inscriptions; second, the use of new technologies applied in the analyses of papyri, coinage, and archaeological evidence; and third, the spread of computerised data technologies. Yet, it is also, undoubtedly, an outcome of our Zeitgeist. While the monetary system with which scholars were familiarised throughout the nineteenth century and the first three-quarters of the twentieth century was in its essence a metallist one, in the sense that precious metals were seen as the commodity underlying the basis and value of the currency; since 1971 and the breakdown of the Bretton Woods system, which brought to its end the direct convertibility of the US dollar to gold (and, following it, also that of other national currencies), modern money users have rapidly

Claudian period; Burnett, Amandry and Carradice (1999), on the Flavian period; Spoerri and Butcher (2006), on the Gordianic period.

[91] Carrié (2005) 270.

adjusted to monetary systems which openly declare their reliance on fiat money.[92] The new official monetary state of affairs, which advocates and promotes money as being intrinsically fiat, affected not only modern financial procedures and operations, it also greatly influenced perceptions of money, both within scholarly communities and among the wider public. Clearly, changes in common attitudes towards money have contributed to the shift of focus in the work of ancient economic historians regarding money. The importance of credit, the acceptance of the consensual nature of money, and the assumption hidden in the notion of 'the purchasing power of money'—namely, that the value of money is essentially flexible—, are all inherent ingredients of the post-1971 monetary reality; and, as such, inevitably affect the "conceptual framework" of ancient historians.

To contemporary monetary reality, and the historian's enlarged evidential and technological tool-kit, should be added also the gradually increasing readiness of ancient historians consciously to accommodate within their studies theories and concepts taken from the social sciences; especially contributions coming from economic anthropology, political economics, and, more recently, what came to be known as New Institutional Economics (NIE).[93] This readiness reflects a more profound shift in the generally polarised debate on ancient economic history. After decades—some would argue centuries[94]—during which the field had been dominated by the 'primitivism'-

[92] Wallace (2008), who states that 'Fiat money is an intrinsically useless object that serves as a medium of exchange'; Von Mises (1953) 62, who defines fiat money as money for which 'the deciding factor is the stamp, and it is not the material bearing the stamp that constitutes the money, but the stamp itself'.
[93] Lo Cascio (2006); Scheidel, Morris and Saller (2007a). On NIE, see pp. 22-5, below.
[94] Cohen (2001).

'modernism' dispute,[95] discussions have now been stimulated beyond old controversies.[96] It is not so much that one approach had triumphed over the other; rather, lessons from both approaches have been integrated into a new perspective common to many of the scholars studying ancient economies. On the one hand, the claim advanced by Moses Finley and his supporters—namely, that antiquity differed from modernity not only quantitatively but also, more importantly, qualitatively[97]—is by now more or less widely accepted.[98] This has encouraged scholars to refine textual analyses,[99] to include in their studies economic related interactions such as gift-giving,[100] and to investigate economic conditions with terminology which gained its economic significance via social sciences other than economics (economic anthropology, in particular).[101] On the other hand, significant increase in the amount and nature of evidence allows for a collection of economic information concerning antiquity as never before, and has put the centre of discussion back on economic performance.[102] Thus, new studies have concentrated on questions of nutrition and standards of living,[103] the effects of technological change on

[95] The 'primitivism'-'modernism' controversy can be traced back to the nineteenth century, and since the 1970s was elaborated under the 'substantivism'-'formalism' debate with argumentation taken from economic anthropology. For current views on this notorious debate, see Davies (1998) 228-33; Morley (2004) 33-50; Manning and Morris (2005) 8-18, 42-3; Bang, Ikeguchi and Ziche (2006); Bang (2009); Silver (2009).

[96] Andreau, Briant and Descat (1997); Morley (2004); Manning and Morris (2005); Scheidel, Morris and Saller (2007b).

[97] Morley (2004) 39-42.

[98] Scheidel, Morris and Saller (2007b).

[99] E.g. Seaford (2004), who introduces a refreshing perspective in interpreting old texts; Eckhardt (2011).

[100] E.g. Morris (1986); Kurke (1999) 101-29.

[101] From Finley (1973), and the employment of Karl Polanyi's term of 'embedded' economy; to Morris (1986), and the use of Marcel Mauss's work on gift-giving; to Bang (2008), and the use of Clifford Geertz's notion of 'bazaar'.

[102] Andreau, Briant and Descat (1997); Scheidel, Morris and Saller (2007a) 1-6; Bowman and Wilson (2009).

[103] E.g. Jongman (2007); (2009); Scheidel (2010b); (2012).

ancient productivity,[104] and price behaviour.[105] Comparative history, too, has been called in to improve our understanding of ancient economic conditions; and while the pre-modern European experience has not been overlooked,[106] scholars have globalised their use of comparative history to take account also of non-European historical examples,[107] as well as to parallel and associate various societies and civilisations categorised as "ancient" (e.g. Greek, Roman, Phoenicians, Egyptian, Mesopotamian, and Near-Eastern), thereby aiming at a more interacted analysis of economic conditions in antiquity.[108] The 'primitivism'-'modernism' debate, followed by the so-called 'substantivism'-'formalism' one, have sharpened the awareness as to the historian's own beliefs and perceptions concerning society and the economy, and the projection these have on her or his subject of research. It has opened a door for a more conscious use of theories in the analyses of economic related interactions, urging historians deliberately, yet mindfully, to employ models taken from economics, anthropology, and sociology.[109] Consequently, the reluctance to rely on modern economic theories for the analysis of ancient economic

[104] E.g. Wilson (2002); Schneider (2007).
[105] Strobel (1989); (2002); Drexhage (1991); Rathbone (1996); (1997); Rosenfeld and Menirav (2005), on prices in Roman Palestine deduced from Jewish legal sources.
[106] E.g. Temin (2004); (2006); Rathbone and Temin (2008), who compare the Roman evidence with that of eighteenth-century England.
[107] Ancient Mesopotamia, in Morris and Scheidel (2008); the Mughal empire in seventeenth-century India, in Bang (2008); China, in Scheidel (2008); (2009); (2010a).
[108] Parkins and Smith (1998); Manning and Morris (2004); Morris and Scheidel (2008).
[109] To follow Morley (2004), rendering 'evidence' for 'models' is no longer considered as replacing "good", "sensible", fact-based analysis with hypothetic modelling.

conditions[110] has largely been replaced by controversies as to which models best fit the evidence.[111]

It is within the scope of this debate—i.e. which models best fit the evidence—that the present study offers some contribution. As has been implied so far, and is further detailed and elaborated below, the present study follows the current trend in ancient economic history to adopt New Institutional Economics (NIE) as a methodological framework. To this approach another, somewhat less common, methodological layer is added; namely, that of the complexity perspective in economics. Relying on complexity theories—and in particular complexity-oriented visualisation—for the analysis of ancient economic conditions has been promulgated by John K. Davies.[112] Davies has offered a complexity-oriented approach for analysing the economies of classical Greek city-states, constructing nonlinear flow models that assist in conceptualising both internal and external economic dynamics for a variety of fifth- and fourth-century BCE Greek polities. The current study attempts to respond to Davies' call for visualisations that allow 'modelling the silent characteristics of the economic behaviour of antiquity …in terms of process and of the flow of resources and return on a single surface within topological space'.[113] By no means does it attempt the colossal task of modelling "the Roman

[110] Which had been attributed to both 'Primitivists', who were accused of ignoring or manipulating historical data, and 'Modernisers', who were accused of unconsciously using neoclassical economic modelling, which is unfit for describing the ancient experience, because it is based on modern capitalist economies; Morley (2004).

[111] E.g. should neoclassical economics provide guidelines for historical analysis, as suggested for example by De Neeve (1985); Temin (2001); (2004); Kessler and Temin (2008)? Or, does New Institutional Economics (NIE) offer a better alternative, as advanced by Kehoe (1997); (2007); Lo Cascio (2006); Scheidel, Morris and Saller (2007b)?

[112] Davies (1998); (2005).

[113] Davies (2005) 155.

economy". What it does is offer an attempt to apply such a methodology for conceptualising one crucial institution of the Roman economy: money.

1.2.2. Economics

It is not only discourse within the field of ancient economic history that has changed, economics itself has also experienced developments which has made it more "acceptable" in the eyes of ancient historians. During much of the twentieth century neoclassical economics, together with its descendants, Monetarism and Real Business Cycle Theory,[114] has been the dominant mainstream economic approach,[115] certainly in the West, and especially in the English-speaking world. From the 1980s heterodox approaches, which have been developing since the early twentieth century, started to receive wider approval among economists. Unlike Marxist economics,[116] these approaches do not reject the capitalist principles of neoclassical economics altogether; rather, they call for an easing, in one way or another, of its strict assumptions, thereby increasing sensitivity to culturally based influences, and allowing more room for consideration of historical developments. Many of these approaches have been incorporated within what came to be known as New Institutional Economics (NIE).[117]

[114] Monetarism—often associated with the work of the economist Milton Friedman; e.g. Friedman (1969)—emphasises the ruling authorities' role in controlling the money supply, and gained popularity with political circles since the 1970s. Real Business Cycle Theory (RBC) takes fluctuations in productivity to be an outcome of real, rather than nominal, shocks; Kydland and Prescott (1982).

[115] On 'mainstream', 'orthodox', and 'heterodox' economics, see Colander, Holt and Rosser (2004b); on 'heterodox' economics, see Lee (2009).

[116] On Marxist economics, see Mandel (1970); Roemer (1981); Lee (2009).

[117] The name introduced by Williamson (1975), and has been widely accepted; Schotter (1981); Langlois (1986); Furubotn and Richter (1991). And, see Lo Cascio (2006); Scheidel, Morris and Saller (2007a); (2007b), who openly advocate the use of NIE in the study of economic history of antiquity.

Institutional economics has long been the subject of economic inquiry, with economists concentrating much on the effects of asymmetric information,[118] and transaction costs.[119] From the 1980s it gained growing acceptability, with studies dedicated to behavioural economics,[120] the limited knowledge of economic actors (imperfect information, asymmetric information, and adverse selection),[121] and their 'bounded rationality'.[122] Since the 1990s NIE's acceptability accelerated, with two of its prominent advocators receiving Nobel Prizes,[123] and the founding of the International Society for New Institutional Economics in 1997.

NIE puts institutions at the centre of economic inquiry. It takes institutions as consisting of 'both informal constraints (sanctions, taboos, customs, traditions, and codes of conduct), and formal rules (constitutions, laws, property rights)'.[124] It defines 'institutions as "the rules of the game", without which economic action is unthinkable'.[125] The term 'institution' is understood in its wider meaning, as including 'at least three senses: as the "rules" themselves (for example, bankruptcy laws); as the entities endowed with the social and political power to promulgate rules (for example, governments and courts); and as the socially legitimized constructions that instantiate rules and through which economic agents act (for example, fiat money and markets).'[126] According to NIE,

[118] Stigler (1961); Akerlof (1970).
[119] Coase (1937); (1960); Williamson (1975); (1979).
[120] Kahneman and Tversky (1979); (1986); Heiner (1986).
[121] Schotter (1981); Greenwald (1986), to cite only one of the dozens of articles published in the 1980s and 1990s on adverse selection.
[122] Simon (1983); Langlois (1986); Rubinstein (1998), who studies bounded rationality with the help of game theory.
[123] Ronald Coase in 1991; Douglass North in 1993. In 2009 the economists Elinor Ostrom and Oliver E. Williamson, whose work is associated with NIE, shared a Nobel Prize.
[124] North (1991) 97.
[125] Arthur, Durlauf and Lane (1997) 11.
[126] *Ibid*.

'institutions provide the incentive structure of an economy'.[127] Furthermore, they tend to 'reduce transaction and production costs',[128] since their existence diminishes some of the unknowns with which agents are faced. Another feature of NIE, which makes it so attractive to historians, is its stress on the role of history,[129] through both evolutionary economics and path-dependency.[130]

There is no doubt that NIE has had great influence on the way historians analyse ancient economies.[131] Ancient historians have long studied economic institutions, in particular money-related institutions (e.g. banks),[132] though not necessarily with the help of economic terminology. In recent years, however, historians willingly apply NIE terminology in their studies, implementing concepts taken from (what used to be considered) 'heterodox' economics, such as 'bounded rationality',[133] and constructing their work in terms of an inquiry into ancient *institutional* economic environment.[134] A few recent studies on ancient money, too, have put greater emphasis on its *institutionalised* nature, investigating the economic conditions created by business and banking establishments and their potential influence on economic growth,[135] explaining monetary history with the help of path-dependency,[136] or considering money itself as an

[127] North (1991) 97.
[128] *Idem* 98.
[129] North (1990); (1991).
[130] On evolutionary economics, see Nelson and Winter (1982); on path-dependency, see David (1985); (2001); Garrouste and Ioannides (2001); Frier and Kehoe (2007) 138-42, who show how this approach can be implemented in studying ancient economies.
[131] Bang, Ikeguchi and Ziche (2006); Scheidel, Morris and Saller (2007b); Bang (2009).
[132] Noticeable works include Andreau (1987); (1999); Bogaert (1968); (1994); (2000); (2001); Camodeca (1992); (1999); (2003).
[133] Kehoe (1997) 20.
[134] Studying the legal and organisational settings of ancient (agrarian) environment in search for patterns of profit-seeking behaviour; Rathbone (1991); Kehoe (1992); (1997); (2007).
[135] Andreau (2006); Rathbone and Temin (2008), who compare Roman evidence with that of Early Modern Europe.
[136] Scheidel (2008).

institution which affected other structures of ancient culture.[137] The present study offers a contribution which fits within the general approach of NIE. It incorporates the influence of some of the specifics described above in analysing legal structures that create the framework within which transactions occur, especially those conducted in money.

NIE is one of three economic methodological foundations of this study; the other two being: (1) monetary theory (more precisely, *theories*), and (2) the complexity perspective in economics. I start by addressing the former, as its development generally predates that of the latter, and in some respects offers a historical background to it.

Economic theories disagree regarding the role allocated to money within the economic analysis. In classical economics, and following it also neoclassical economics, money is generally viewed as a commodity involved in the exchange of one good for another, with the outcome of envisioning economic activity in terms of barter exchange;[138] hence, in these traditions of thought 'money plays only a superficial role, as a neutral lubricant of economic activity'.[139] This approach, known as the doctrine of the Neutrality of Money, was refined by Irving Fisher in his formulation of the 'Quantity Theory of Money'.[140] According to it, changes in the money supply *ceteris paribus* have only nominal implications (i.e. on the level of prices, wages, and exchange rates), with no effect, surely not in the long term, on real economic activity (i.e. consumption,

[137] Seaford (2004); (2008); von Reden (2007).
[138] Heinsohn and Steiger (2006) 490.
[139] Smithin (2006) 273-4.
[140] Best summarised in the equation: M*V=Q*P ; with M representing the total quantity of money, V the velocity of its circulation, Q the total volume of goods and services transacted for money, and P the average level of prices; Fisher (1922).

employment, GDP, etc.).[141] Classical and neoclassical economics support the neutrality of money in the long term.[142] For the short term, neoclassical and monetarist economists accept the non-neutrality of money, arguing that due to uneven and incomplete information, economic agents, acting on the basis of rational expectations, fail to accurately predict future reality; therefore, changes in money supply may affect real variables, such as employment and production. However, these effects last only over the short term; in the long term, as information is revealed to all, markets should clear and return to their initial equilibrium, with price level modified in accordance with the alteration in money supply.[143]

An alternative approach is offered by Keynesian and post-Keynesian economics, and by the Austrian school in economics. These schools argue that the existence of risks and the fact that choices are always made under conditions of uncertainty prevent money from ever being neutral. Economists belonging to the Keynesian tradition of thought 'recognize that a monetary economy operates quite differently from a non-monetary system, so that, in the short as well as the long run, money is never neutral',[144] in the sense that it affects real economic activity. According to Keynesian and post-Keynesian economics, money plays an active role in determining real variables since price rigidities (known as 'sticky prices'), and market imperfections, prevent monetary shocks from resulting in an even price adjustment, i.e. a price adjustment which is uniform throughout the different markets that comprise an economy; henceforth, part of a monetary shock is

[141] Patinkin (2008); M. Friedman (2008).
[142] Giraldo Palomino (2005) 88-9.
[143] RBC theory follows classical economics in considering money has no real effect also in the short term; Giraldo Palomino (2005) 81-4, 87-8; Snowdon and Vane (2005) 235-41. For support of the neoclassical monetarist view, especially when compared with that of the Austrian school, see Humphrey (1984).
[144] Davidson (2006) 141, when interpreting Keynes (1936).

absorbed by real GDP.[145]

Austrian economics, with its emphasis on disequilibrium-analysis of the economy at the disaggregated (or 'micro') level, holds money to be a dynamic agent, which affects relative prices and the time structure of production. Economists affiliated with the Austrian school claim that the use of the term 'price level' is misleading, for there are never any constant ratios among economic magnitudes. A monetary shock does not alter all prices, certainly not simultaneously, and those prices which do alter do not change to the same degree. When all price consequences of a monetary shock are consummated, a transfer of wealth between social groups occurs, resulting in a new dispersion of wealth and income within an economic system. In this new social order the desires of individuals—hence, also their revealed preferences—are satisfied to different relative degrees than formerly. Therefore, the new state of prices cannot simply be a multiple of previous prices. That is, changes in the purchasing power of money are not proportional to changes in the relation between the supply of and the demand for money; hence, money is not neutral.[146]

Numismatists and ancient historians studying Roman money generally tend to accept the orthodox neoclassical economic approach, which has dominated monetary discussions in the English-speaking world throughout most of the twentieth century. As a result, the idea of money's neutrality—best summarised in Fisher's equation of the 'Quantity Theory of Money'—has often been referred to, treated as a guiding principle,

[145] Giraldo Palomino (2005); Snowdon and Vane (2005) 366, 549-51.
[146] Von Mises (1953); Giraldo Palomino (2005) 88-90; Garrison (2005); Ravier (2011).

or set at the background of discussion of Roman money.[147] Even where ancient historians do not rely on the doctrine of money's neutrality, they never (as far as I am aware) reject its validity altogether; rather, they prefer stressing other aspects of the evidence as a more plausible course of explanation.[148]

The difference of opinion regarding the neutrality or non-neutrality of money has to do with views regarding how money comes into existence. The underlying assumption of classical economics is that money is exogenous to the economy; i.e. money is something formed externally to economic dynamics, imposed on a system from outside. Where commodity money is concerned this is achieved through the natural restraints of an economy, in the form of fixed or slowly varying resources of metals, shells, etc.. Where commodity money is an outcome of agriculture productivity (e.g. oxen or other livestock, wheat, tea, coffee beans, etc.), its stock is constrained by exogenous factors which diminish or enhance fertility. Alternatively, the exogeneity of money could be achieved via the actions of the ruling authorities accountable for the creation of money (i.e. minting authorities, central banks, etc.). Orthodox neoclassical economics generally holds monetary mechanisms of the ruling authorities responsible for the control over the

[147] E.g. Bolin (1958) 12-14, 36; Howgego (1992) 12-16, who refers to the velocity of money; (1995) 122-5; (2009) 289, who states that 'For the Roman economy the Fisher equation is certainly a good tool to think with, but it is very uncertain what numbers should be plugged into it'; Hollander (2007); von Reden (2010) 139-40; Katsari (2011).

[148] E.g. instead of viewing the so-called third-century inflation as a decline in the purchasing power of Roman money due to coin debasement and the increase in the money supply which it allowed, scholars have offered explanations which downplay the role of the Quantity Theory of Money and stress that of Aurelian's monetary reform (274/5), seeing the latter as a turning point in the monetary history of the Roman empire; e.g. Rathbone (1996); (1997); Harris (2006) 22-3, who, when talking about the sharp acceleration in prices in the 270s, says that 'A conventional Fisher explanation would link the event to an abrupt increase in the money supply. But the two phenomena seem so vastly disproportionate - in fact we do not know that money supply in the Roman Empire increased at all in the period directly prior to the rise in prices'; Carrié (2007); Haklai-Rotenberg (2011).

money supply.

A different approach is advocated by adherents of the Keynesian and Austrian traditions of economic thought, who perceive money as an endogenous variable of the economy; that is, as arising from the working of the economic system itself. In Austrian tradition endogenous money theories date back to late nineteenth century,[149] and were elaborated especially by Ludwig von Mises in his *Theory of Money and Credit*, first published in 1912.[150] According to Mises, money is part of a self-adjusting, self-correcting system of dual sanctions: profit and loss. It is a product of the free market's ability to establish, through voluntary transactions of individuals, a market-clearing mechanism in the form of prices, operating apart from any governmental agency.[151] Thus, in Austrian economics money is both market-generated and market-regulated.

Also Keynesian and post-Keynesian economics give endogenous money an important role,[152] arguing that under certain conditions—namely, of the banking sector—money can be created by agents operating within the economy. Money supply is viewed as determined, at least partly if not entirely, by the demand for credit and the liquidity preferences of economic actors (firms and individuals alike). Banking operations influence the supply of money in accord with the demand for it in the non-banking sector, as manifested in aggregate preferences regarding loans and deposits.[153] In recent decades

[149] Wicksell (1898); Schumpeter (1911).
[150] Von Mises (1953).
[151] Von Mises (1953); North (2012) 118-140.
[152] Moore (1988); (2006); Wray (1990); Rochon (2003); Fontana (2004); Dow (2006); Lavoie (2006); Gnos and Rochon (2008).
[153] According to Keynesian liquidity preference theory, money supply is endogenous in the sense that it is credit-demand-driven; Bibow (2006) 331-2. Post-Keynesian economists also regard money supply as demand-determined and credit-driven; Fontana (2004); Lavoie (2006); and so does the circuitist approach in economics (both French and its Italian descendant); Rochon (2003); Cavalieri (2004); Gnos (2006); Realfonzo (2006).

the notion of money's endogeneity receives growing recognition also within mainstream neoclassical economics;[154] and economists widely (although not universally) accept the notion that the money supply is not under full control of the monetary authorities and that it is, at least in part, endogenous to real (private sector) economic processes.[155]

In the scholarship on ancient economic history the exogenous nature of Roman money has been unquestioned for decades. Since coinage was perceived as the main monetary instrument, and its creation in the Roman world was largely under the supervision of the ruling authorities, scholars tended to consider monetary shocks as exogenous to economic activity: imperial authorities expanded coin—hence, money—supply thanks to conquests, which increased Rome's precious metal resources;[156] they provided "easy" credit so as to facilitate shortage in cash supply and maintain public order;[157] and they extended coin production via debasement in order to answer the needs of imperial expenditure.[158] In recent years, with endogenous money becoming an inherent part of mainstream economic discussions, and with the rise of the post-Keynesian approach, ancient historians, too, have begun to take more account of the endogeneity of Roman money. Thus, scholars include endogenous money in their analyses, stressing the

[154] Goodhart (1984); McCallum (1986); Giraldo Palomino (2005); Snowdon and Vane (2005) 298.
[155] Dow (2006) 35. For neoclassical vs. post-Keynesian economics, see Howells (2006).
[156] E.g. the effects of Trajan's conquest of Dacia and its gold mines; Bolin (1958) 47-50, 97-8, 180-95; Burnett (1987) 48-50; Harl (1996) 94; Howgego (1990) 4-5; (1995) 119; Woytek *et al.* (2007a); (2007b). More generally on the role of imperial authorities in influencing money supply, see Howgego (1992).
[157] E.g. Tiberius' actions during the 33 EC credit crisis; Tac. *Ann.* 6.16-17; Dio 58.21; Suet. *Tib.* 48; Frank (1940) 32-9; Sutherland (1987) 62-3; Wolters (1987); Andreau (1999) 104-7; Tchernia (2003); Gaia (2009), *non vidi*.
[158] E.g. Trajan's coin debasement, which is dated to 100 CE in Woytek *et al.* (2007a) 151-3; (2007b); thereby establishing it as part of his preparations towards the first campaign against the Dacians (101-102 CE) rather than—as suggested in Walker (1978) 122—an outcome of the Dacian wars. Another example is the coin debasement under the Severans; Crawford (1975) 561-3; Howgego (1990) 7-11; (1992); (1995) 117-9; Carrié (2007); Haklai-Rotenberg (2011) 6, with further bibliography. Yet, as stressd in Howgego (1990) 15-25, by no means should we view imperial expenditure as the sole reason for striking coinage.

importance of credit and the significance of the banking sector in transforming deposits into credit money, and in so doing contributing to the Roman money supply.[159]

The third economic methodology foundation of this study is the complexity perspective in economics. Complexity economics relies on chaos, network, and complexity theories developed in the natural and physical sciences; theories which by now have become an integral part of the contemporary intellectual landscape,[160] extending their influence also to the social sciences.[161] Complexity theories understand the world as composed of many systems rather than one, which operate side by side in different levels of structures.[162] Complex systems are defined as self-organising systems, in which new patterns of activity are created by the entities operating within the system.[163] They are dynamic, self-adjusting systems, which endure and evolve over time, hence tend to be structured in a sustained non-equilibrium pattern of evolution.[164] In economics, complexity is a relatively new approach that began to emerge in the 1980s and to a greater extent during the 1990s,[165] promoted especially by the Santa Fe Institute (SFI).[166] It incorporates "heterodox" economic approaches,[167] e.g. evolutionary

[159] Mrozek (1985); Harris (2006); (2008c); Hollander (2007); Cohen (2008); Rathbone and Temin (2008); Kay (2009).
[160] Weaver (1948), who offers a good starting point.
[161] Wible (2000) 15-9; Prasch (2000); Montgomery (2000).
[162] Nicolis and Prigogine (1989) 2-6.
[163] Nicolis and Prigogine (1989) 25-7; Wible (2000) 17-8.
[164] Wible (2000) 18-9.
[165] On features of complexity advocated by Austrian economics, see below.
[166] http://www.santafe.edu. Anderson, Arrow and Pines (1988); Arthur, Durlauf and Lane (1997); Wible (2000).
[167] What Colander, Holt and Rosser (2004a), label 'The changing face of Economics'.

economics,[168] path dependency,[169] and dynamic economics,[170] within a broader complexity perspective.[171]

The complexity perspective in economics challenges some of the cornerstones of mainstream neoclassical economics. It rejects the latter's dependency on equilibrium analysis, replacing it with multi-equilibrium or disequilibrium analyses.[172] It casts off the linear structure of mainstream economic model building, stressing the essential non-linearity of economic phenomena,[173] and applying adaptive and dynamic nonlinear mathematics in economic model building.[174] Rather than attributing the decision-making mechanism to 'rational expectations', complexity economics emphasises the induction process of expectations formation, arguing that agents keep adjusting their expectations to an ever evolving economic environment, and stressing the network based process by which agents acquire information and make choices.[175] Instead of considering an aggregate outcome to be a multiplication of the average agent, whose behaviour is perceived as representative of all other agents, complexity economics views an aggregate outcome as more than the sum of the factors which comprise it; that is, aggregate performance involves a behavioural change, which is an outcome of the significant interactions occurring between economic agents.[176]

[168] Lindgren (1997); Metcalfe and Foster (2007).
[169] North (1997); Prasch (2000) 220-2.
[170] Brock (1997); Kirman (1997).
[171] Arthur, Durlauf and Lane (1997b).
[172] Arthur (1990); Arthur, Durlauf and Lane (1997b) 4-6.
[173] Arthur, Durlauf and Lane (1997b) 2-5.
[174] Day (1992) 14; Montgomery (2000); Shapiro (2000); Velupialli (2011).
[175] Arthur, Durlauf and Lane (1997a); Lane (1997); Prasch (2000).
[176] Day (1992); Arthur, Durlauf and Lane (1997b) 5-11; Krugman (1997) 241-3.

Features of complexity have been advocated in economics prior to the 1980s within the Austrian tradition of economic thought,[177] and especially by the Austrian economist and philosopher Friedrich von Hayek.[178] Hayek held the formation of a market economy to be an outcome of 'spontaneous order', a self-organising, constantly evolving process in which structures are formed by the combination of self-interested individuals, each pursuing her or his own wants, without intentionally trying to achieve order.[179] Consequently, exchange, production, and distribution are incorporated within an economic system in ways which no individual mind could ever plan.[180] Thus, institutions—whether these refer to "The Market", Law, Culture, or Language—are 'the result of human actions, but not the execution of human design'.[181]

Hayek's views did not achieve wide acceptance among mainstream economics of his time, but nowadays, and with the rise of complexity economics, they have become an integral part of economic discussion.[182] However, there are distinctions between Austrian economics and the new complexity approach in economics.[183] Unlike the Austrian school, which supports a verbal, non-mathematical approach to economic analysis, most of the economists advocating complexity economics do not reject mathematics as a

[177] Vaughn (1999); Koppl (2009), who even attributes a proto-complexity approach to the founding father of the Austrian economic school, Carl Menger, seeing him as a predecessor of the 'spontaneous order' idea; Rosser (2010). Coming from outside the social sciences, Weaver (1948) 539, offered to view economic phenomena as 'organised complexity': 'On what does the price of wheat depend? This too is a problem of organized complexity. A very substantial number of relevant variables is involved here, and they are all interrelated in a complicated, but nevertheless not in helter-skelter, fashion'.

[178] Hayek (1948); (1960); (1967). On Hayek's complexity ideas, see Chaumont-Chancelier (1999); Vaughn (1999); Wible (2000) 19-23; Caldwell (2004) 323-82; Gaus (2006).

[179] Vaughn (1999); Montgomery (2000) 228-9; Rosser (2010).

[180] Hayek (1967); Wible (2000) 19-23; Montgomery (2000); Rosser (2010).

[181] Adam Ferguson (1767) *The History of Economic Thought*, quoted in Hayek (1960) 57.

[182] E.g. Krugman (1996).

[183] Contra Koppl (2009). On Austrian vs. Complexity economics, see Montgomery (2000); Rosser (2010).

methodological tool;[184] far from it. Rather, they point out difficulties arising from the linear mathematics traditionally applied in mainstream neoclassical economics,[185] and instead habitually apply dynamic nonlinear mathematics as a method of modelling.[186]

The current historical study is not one which aims to produce numerical databases. Hence, in analysing the historical evidence it does not apply mathematics, be it traditional, dynamic, or nonlinear. Thus, one of the chief barriers, which separate the new complexity approach in economics as promulgated by the Santa Fe Institute, and the Austrian complexity-oriented approach as advocated by Hayek, is removed. What the present study attempts at its culmination, is to apply complexity-oriented visualisation as a method of analysis. Such an approach had been advocated in the context of ancient economic history by John K. Davies, who applied it in analysing the economy of ancient Greek polities.[187] The present study follows Davies. It relies on modern database-driven complexity visualisations as inspiration to portray a qualitative analysis of Roman money; using complex schemata to depict the interrelations and multi-linkages which arise from the evidence.[188]

1.2.3. The Problem of the Evidence

Last to be addressed is the issue of the historical evidence used in this research. As a general rule, numismatics offers material evidence for both the physical and the

[184] Montgomery (2000).
[185] Arthur, Durlauf and Lane (1997b) 3.
[186] Arthur, Durlauf and Lane (1997b) 3-4; Prasch (2000) 216. There is another prominent distinction: while economists affiliated with the new complexity perspective tend to advocate market-intervention policies, Austrian economics usually strongly rejects government intervention.
[187] Davies (1998); (2005).
[188] See Ch. 9, below.

conceptual structure of Roman money, i.e. the numerical division of money, expressed in denominations. Hence, it provides the framework for any discussion on Roman money. The current study, however, is not a numismatic one; albeit numismatic evidence is present at its background. Rather, the study is conducted mainly on the basis of legal evidence, with documentary, and to a lesser extent literary, evidence acting as "auxiliary pillars", in the sense that they offer test-cases to check trends in actual practice, and the reliability of the regulations preserved in legal sources.[189]

A range of difficulties arise when using Roman legal sources as evidence for real behaviour, be it economic or other. To begin with, there was more than one system of law in force in the Roman empire, and in some regions of the empire Roman law was not even the dominant legal system by which transactions were contracted. Roman law itself considered several different legal statuses: apart from Roman citizenship, there were also the "Italian allies" (*ius Italicum*), a status which could be granted also to communities outside of Italy, people with "Latin rights" (*ius Latii*), and the general category of "the provinces", which included, alongside various types of privileged legal statuses (that could grant immunity from certain taxes), also provincial communities more gravely subordinated to Roman imperial rule (sometimes called *socii*, *provinciales*, or *peregrini*).[190]

Despite similarities in local administration of Roman and non-Roman communities,[191] when it came to jurisdiction Roman citizens had to comply with the *ius*

[189] As put by Bagnall (1995) 65: 'the papyri provide the means to test hypotheses developed on the basis of the codes and to examine the abstractions of imperial legislation to see how far they operated in reality'.
[190] Sherwin-White (1973) 291-379; Lavan (2013) 25-72.
[191] For a comparison between western and eastern local constitutions and civic organisation, see Lintott (1993) 129-53; Eck (2000) 278-81; Galsterer (2000); Carrié (2005). For criticism on the tendency to

civile, i.e. those laws 'which come in the form of statutes, plebiscites, *senatus consulta*, imperial decrees, or authoritative juristic statements';[192] while *peregrini*, i.e. people of neither Roman nor Latin status,[193] were generally left to their own laws.[194] Thus, affiliation to a legal system was normally a question of personal status, rather than one of locality;[195] though when it came to jurisprudence procedures in the provinces, it was not infrequent for Roman imperial administrators (the chief one being the governor himself) to have sat as high-judges in provincial courts.

The relationship between Roman and indigenous law has been the subject of much scholarly research. Since Ludwig Mitteis' monumental *Reichsrecht und Volksrecht* (1891), which emphasised the importance of local non-Roman law, the general tendency in the scholarship has been to view the empire's legal pluralism in terms of the degree to which Roman law managed to supersede local law.[196] Following this line of reasoning the traditional Romanist approach regarding the *constitutio Antoniniana*—Caracalla's imperial decree of 212 CE which granted Roman citizenship to all free inhabitants of the empire[197]—has been to view it as a triumph. That is, the *constitutio* is seen as evidence for Rome's success in subordinating indigenous laws to its own; thereby making the

observe law in the Roman empire (as well as legal status and identity) in binary terms, citizens vs. non-citizens, i.e. *peregrini*, see Lavan (2013) 27-32.

[192] Papin. *Dig*. 1.1.7.pr. (2 *defin*.): '*Ius autem civile est, quod ex legibus, plebis scitis, senatus consultis, decretis principum, auctoritate prudentium venit*'. On the *ius civile*, see Berger (1953) 527; Fiori (1998-1999), who reconsiders the relation between *ius civile*, *ius gentium*, and *ius honorarium*.

[193] On *peregrini*, see Berger (1953) 626-7; Lavan (2013) 32-5. On late-Republican and imperial Latin terminology in referring to non-Roman-citizens, namely *peregrini*, *socii*, and *provinciales*, and the relation between these terms, see Lavan (2013) 25-72.

[194] Galsterer (2000) 349; Lavan (2013) 31.

[195] Sherwin-White (1973) 291-331; Montevecchi (1988) 194; but, see Lavan (2013) 28, who remarks on the *ius Italicum*.

[196] Carrié (2005) 274; Tuori (2007), who offers a condensed overview.

[197] *P.Giss.Lit.* 6.1 (=*P.Giss*. 40 col. I); Dio 78.9; Ulp. *Dig*. 1.5.17 (22 *ad ed*.). On the *constitutio Antoniniana* see, Sasse (1958); Sherwin-White (1973) 380-394; Hartmut (1976); Mélèze-Modrzejewski (1990) X; Grant (1996) 30-1; Carrié (2005) esp. 271-5; Tuori (2007).

division between *ius civile* and *ius gentium* ("the law of nations") insignificant, since all free inhabitants became subject to Roman civil law.[198]

In the last decades such an image of the relation between local and Roman laws undergones a change.[199] Rather than phrasing the discussion in terms of 'a battle of laws',[200] scholars prefer to view it 'in terms of creative tension between differing systems of law'.[201] According to this approach Rome recognised local traditions and displayed initial tolerance towards indigenous legal systems as well as continuity in the administration of law,[202] while nevertheless demonstrating readiness to advance legal uniformity.[203] Even though *civitates peregrinae*, in the East as well as in the West, largely had maintained local law—and although peregrine legal systems were not, as a principle, overridden by Roman jurisdiction—nevertheless local laws were put under Roman influence.[204] With the introduction of the *constitutio Antoniniana* and the extension of Roman citizenship 'a compulsory adaptation of local laws to Roman juridical principles' was entailed.[205] However, by no means was it an immediate clear-cut transfer. Legal syncretism was a slow and continuous process, which started way before Caracalla's *constitutio* and continued well after it.[206] In some regions of the empire local

[198] Kaser (1975) 53: 'So verliert der Gegensatz zwischen *ius civile* und *ius gentium* seine praktische Bedeutung, seitdem die *const. Antoniniana* alle freien Reichsuntertanen zu römischen Bürgern gemacht und damit auch dem ius civile unterworfen hat'.
[199] Tuori (2007) 39.
[200] *Idem* 42-5.
[201] Lintott (1993) 160; also, Galsterer (1986).
[202] Galsterer (1986); Cotton (2007) 236-7.
[203] Lintott (1993) 158-60.
[204] Lintott (1993) 129-60, esp. 150, 154-7; Carrié (2005) 274.
[205] Carrié (2005) 274. However, with regard to the *constitutio*'s implications on municipal statuses, see *idem* 272, who remarks that 'public opinion would therefore not have regarded the Edict of Caracalla as a revolutionary measure'.
[206] Generally, local legal practice continued so long as it did not contradict Roman law; Carrié (2005) 274.

legal practice prevailed for several decades after 212;[207] while in others the process of legal syncretism appears not to have been significantly affected by Caracalla's grant of citizenship.[208]

Legal assimilation was a combination of a top-down process, derived from Roman aspirations for centralisation and uniformity;[209] as well as a bottom-up one, motivated by local desire to imitate and implement Roman norms.[210] As a top-down process the diffusion of Roman law was in many respects a direct outcome of Roman rule:[211] Roman governors were entrusted with keeping peace and administrating justice, and in doing so relied on Roman jurisdiction and Roman legal principles.[212] One notion which facilitated the spread of Roman law—at least from the Roman end of the relationship—was the *ius gentium*. In its procedural aspect the *ius gentium* enable establishing a mechanism by which commercial relations with non-Romans could have had legal enforceability through actions (i.e. the jurisdictional activity of the *praetor*

[207] E.g. *P.Dura* 26 (Sachare, near Dura-Europos, 227) [=*FIRA* III 138], which includes a *stipulatio* within a deed of sale in an otherwise "Greek" contract; Lintott (1993) 156-60. Also, see the comments of Menander of Laodicea, writing in the second-half of the third century CE, on the relation between local and Roman law; Mélèze-Modrzejewski (1990) XII, with the Greek text, its French translation, and a detailed discussion of the relation between local and Roman law in third-century Hellenised cities; Carrié (2005) 274-5.

[208] As put by Carrié (2005) 274, juridical papyrology indicates 'that, after 212, the Roman power preserved for local laws the same place that they occupied previously within provincial law. …in Egypt, in the drafting of juridical acts, we see appearing after the *constitutio Antoniniana* …a formula of *stipulatio* which confers a value in Roman law upon a contract drawn up in accordance with local customs. The extension of citizenship did not, therefore, *ipso facto* entail generalized application of Roman private law in the provinces, nor did it debase Roman law by provincializing it'. Also, see Galsterer (1987); Lintott (1993) 156-8, who refers to the Romano-Syrian Law Book of the fifth century.

[209] Tuori (2007), with further references.

[210] Lintott (1993) 154-60; Cotton (2007) esp. 244-5; Meyer (2007), for difference between Arabia and Judaea in the provincial preferences regarding legal procedures and corpora.

[211] Carrié (2005) 274, who states that it was 'the Roman conquest itself, which ended the juridical independence of the Hellenic cities and subjected what remained of their legislative activity to approval by the provincial governors'; Kehoe (2012).

[212] Galsterer (2000); Carrié (2005); Kehoe (2012) 189-91, on the role of Roman imperial administration 'in imposing a more uniform system of law across the empire' (p. 190).

peregrinus).[213] In addition, the *ius gentium* represented a more general concept, in the sense of emphasising sociologically similar institutions, i.e. those aspects of law which were perceived as universal and observed by all peoples.[214] Such were 'religious duties toward God, or the duty to be obedient to one's parents and fatherland',[215] 'or the right to repel violent injuries',[216] or the tripartition of personal status into free, slave, and freedman.[217] Commerce, too, and in particular buying and selling and letting and hiring, derived its enforcement according to Roman jurists from *ius gentium* ('except for certain contractual elements established through *ius civile*');[218] hence could be perceived as universally valid. This last point is of special relevance to the present study. Not only that commercial peregrine law can be compared with that of Roman civil law, but also the former in fact may be analysed and interpreted with the latter in mind.

Looking at Roman legal pluralism from the other end of the centre-periphery/ universalism-particularism dichotomy, our evidence is mainly documentary.[219] Whether preserved on papyri, *tabulae*, or inscriptions,[220] documentary evidence records

[213] Berger (1953) 528-9; Fiori (1998-1999), who argues that *ius gentium* and *iudicia bonae fidei* have been part of *ius civile* from the very beginning.

[214] Ulp. *Dig*. 1.1.4 (1 *inst.*); Gai. *Inst.* 1.1 (=*Dig*. 1.1.9). On *ius gentium* as a measure to ease, or even to "erase", tensions between local and Roman law, see Cotton (2007) 235-6.

[215] Pompon. *Dig*. 1.1.2 (*enchir.*): '*Veluti erga deum religio: ut parentibus et patriae pareamus*'.

[216] Flor. *Dig*. 1.1.3 (1 *inst.*): '*Ut vim atque iniuriam propulsemus*'.

[217] Ulp. *Dig*. 1.1.4 (1 *inst.*); but, see Gai. *Inst.* 1.86, for difference between *ius gentium* and *ius civile* regarding the status of a child born to a free woman from a slave father.

[218] Herm. *Dig*. 1.1.5 (1 *iur. epit.*): '*Ex hoc iure gentium introducta bella, discretae gentes, regna condita, dominia distincta, agris termini positi, aedificia collocata, commercium, emptiones venditiones, locationes conductiones, obligationes institutae: exceptis quibusdam quae iure civili introductae sunt*'.

[219] There are also non-Roman legal corpora, e.g. the Jewish one, dealt with, to some extent, in Chs. 3 and 8, below.

[220] For general notes on using documentary papyri in writing history, see Bagnall (1995). On *tabulae* in the Roman world, see Meyer (2004). As to inscriptions, much has been written on what can and cannot be inferred from its preservation, to use the words of Woolf (1990) 199: 'We have no way of knowing the proportions of all Roman inscriptions ever set up that have survived, and it probably varied considerably from area to area, but a figure of 5% gives an order of magnitude'. Also, see MacMullen (1982); Duncan-Jones (1982) appendix 13.

transactions of private individuals, whose affairs have come down to us as a matter of chance, preserved by way of accident. As such it allows a "peek" into actual legal practice, both Roman and peregrine. It often exhibits a mixture of legal systems in use; indicating that provincials and Romans operated within a jigsaw of legal corpora, choosing their course of action in accordance with the legal path that would best serve their interests.[221] Thus, for example, a tablet from the Murecine archive of the *Sulpicii*, a family of bankers from Puteoli near Pompeii, records a sea-freight contract which involves both Roman *stipulationes* and a Greek written contract called *syngraphe* (*συγγραφή*).[222] Perhaps one of the most celebrated examples for such mixed use of legal corpora is the Babatha archive,[223] a group of papyri found in the so-called "Cave of Letters" near the Dead Sea, containing, among many other papyri, the legal documents of a Jewish lady named Babatha, who lived in the Roman province of Arabia and had fled to the region near Ein-Gedi in Judaea at the time of the Bar-Kochba revolt.[224] The Babatha archive—as well as other archives from the same period and region[225]—displays a mixture of legal systems and languages;[226] it shows the same individuals to have used a variety of juridical procedures taken from Jewish, Roman and Hellenised Greek law,[227] moving between and within legal systems in pursuit of their wants, and choosing between

[221] Or, alternatively, suit their cultural inclinations; Cotton (2007); Meyer (2007), with further references.
[222] *TPSulp.* 78 (Puteoli, 38) (=*TPN* 13); Camodeca (1999) 177f., with further references; Jakab (2000); Hollander (2007) 44-7, who gives some general notes on *syngraphae*.
[223] Meyer (2007) 53-4, who comments on using the label "archive".
[224] For the Greek documents, see Lewis (1989); for the Hebrew and Aramaic documents, see Cotton (2002). Literature on the Babatha archive is vast; here I refer only to relatively recent publications, which offer detailed bibliographies; Katzoff and Schaps (2005); Meyer (2007); Oudshoorn (2007).
[225] Such as the archive of Babatha's neighbour, Salome Komaïse daughter of Levi, and that of Shelomzion, Babatha's step-daughter; Cotton (1995); Satlow (2005); Oudshoorn (2007); Meyer (2007) 54-6.
[226] Cotton (1999).
[227] The legal documents differ in various aspects, from the type of legal-instances approached, to the physical form of the documents, to their legal format, to technical formalities such as fashion of dating; Meyer (2007), who offers detailed discussion.

laws and jurisdictions in accordance with their estimations as to which legal path would best suit their particular needs.[228]

Albeit a considerable portion of economic interaction was conducted in accordance with endogenous laws, the present study focuses on Roman law with the following primary justifications. Roman law was the legal system of the conquering elite. As such, not only was its enforcement empire-wide, and not only was it the legal system under which many members of the empire's elite groups conducted their affairs, provincials, too, could and did appeal to Roman jurisdiction whenever it was possible and they thought it more advantageous.[229] Furthermore, although local courts and administrators were given right of jurisdiction in private disputes, this was often restricted to cases which did not exceed certain amounts, above which (as well as in cases of capital punishment) jurisdiction was directed to Roman authorities.[230] Lastly, since much of the Roman empire's wealth was concentrated in the hands of elite Roman citizens—first and foremost the emperor and his extended household (freedmen included), and the senatorial and equestrian orders—Roman legal sources enlighten us on the principles which directed the manner in which much of the empire's wealth was administered. This last statement deserves further elaboration.

[228] Lintott (1993) 156-8; Cotton (2007); Meyer (2007); Oudshoorn (2007).
[229] Galsterer (1986); (2000); Carrié (2005); Cotton (2007); Meyer (2007); Tuori (2007).
[230] E.g. the *Lex de Gallia Cisalpina* (49-42 BCE), which indicates that cases with damages worth up to a certain fixed sum—10,000 *sestertii* in a fragment from Ateste (*FIRA* I 20), 15,000 in a fragment from Veleia near Piacenza (*FIRA* I 19)—were brought before local courts, while above that sum cases were directed to Roman jurisdiction; Bruna (1972); Laffi (1986); Lintott (1993) 135-7; Crawford (1996) no. 28, pp. 461-77. Or, the *Lex Irnitana* (91 CE)—an inscription containing the laws of a small *municipium* in Baetica in the Iberian peninsula named Irni—Chs. 84 and 89, which limit the cases subject to the *iuris dictio* of local administrators up to 1,000 *sestertii*; González (1986); Galsterer (2000) 351; Lavan (2013) 31.

While population and technology govern the limits within which economies develop;[231] law and legal institutions determine the form within which economic activity is organised.[232] Legal institutions shape and preserve the distribution of wealth in a society, and as such affect the manner in which economic resources are exploited. Legal sources perhaps do not always accurately reflect actual historical economic conditions, yet law—being a system of wealth preservation that enables the maintenance of social privileges—offers a fertile ground for a historical inquiry into the *principles* that guide legislators and legal practitioners in seeking how to uphold or influence social order.[233] To use the carefully phrased words of Dennis Kehoe, 'Roman jurists frequently made assumptions about the economic interests of the groups affected by their rulings, and these assumptions, based on the jurists' understanding of the economic world around them, offer a broad and …reliable framework in which to analyse the individual pieces of evidence'.[234] Questions of property, its ownership, use and misuse, and compensation for its loss, are often the subject of Roman juristic examination. Consequently, one finds Roman jurists regularly mentioning money and referring, directly and indirectly, to monetary issues and money-related questions.

In analysing legal evidence the current study follows the guidelines formulated by Dennis Kehoe in his *Investment, Profit, and Tenancy* (1997). These are as follows. Since a substantial portion of the Roman empire's wealth was concentrated in the hands of elite groups; since Roman jurists were affiliated with these groups, and were very much

[231] Scheidel (2007), on demography; Schneider (2007), on technology.
[232] Frier and Kehoe (2007) 113.
[233] On the importance of law in preserving income-bearing wealth to maintain social class and privileges, see Kehoe (1997).
[234] Kehoe (1997) 3.

concerned with the interests of the well-to-do members of society;[235] and since the rules which jurists formulated and the verdicts which they gave influenced not only the wealthiest—hence, the manner in which much of the empire's wealth was administered—but also any owner of property, be it movables or immovables, bound under Roman law; therefore, the assumptions made by Roman legal authorities concerning the economic reality around them, not only set the basis for the formulation of rules and verdicts, but also directed the institutionalised framework within which actual economic practice took place.[236] The legal authorities' suppositions concerning their contemporaneous economic reality consist of traditional as well as more educated Roman ideas about economic activities;[237] and, as such, conceal conventional Roman attitudes towards economic themes and concepts, one of which is the indisputably important institution of money.

Up till now, the description above is in accord with that of Dennis Kehoe. Kehoe's analysis focuses on tutorship and legacy laws, with the stated assumption that these 'represent two areas of the law where we could expect the jurists to have displayed a concern for contemporary social and economic practices',[238] since via these areas of law upper-class Romans aimed 'to maintain financial security and social status not only for themselves but for future generations'.[239] While the emphasis on tutorship and legacy laws is certainly justified in the case of an inquiry into the investment patterns of Roman landowners; when considering monetary practices the matter is somewhat more elusive.

[235] Frier (1980) 48-55; De Neeve (1984) 26.
[236] During the second and early-third century CE Roman jurists came to play an increasing role within the empire's administration, holding public office while continuing to practise law. More often than not jurists worked individually; yet, although each jurist promoted his own legal interpretations, the outcome of their collective efforts directed Roman law towards coherency; Jolowicz and Nicholas (1972) 6, 374-8, 406-8; Ibbetson (2005) 184-6, 191-8; Robinson (1997).
[237] On the economic thinking of Roman jurists, see Nicolet (1988), with references to earlier bibliography.
[238] Kehoe (1997) 12.
[239] *Idem* 14.

Money is relevant to a wide range of economic activities; many of which are every-day, often transitory, transactions, and do not necessarily concern the preservation of wealth over time or inter generations (which is precisely the role of legacy and tutorship laws). Therefore, concentrating on legacy or tutorship would emphasise the use of money in enduring activities, aimed at a cautious safeguarding against potential future malpractice, while neglecting its role in facilitating more ordinary transactions, be these transitory or long-termed, occasional or recurring. Thus, when it comes to an inquiry of a fundamental economic institution such as money, it is better not to focus on one theme or category of law alone. Because money is applied in a variety of transactions, because it is such an essential institution for society, in searching for Roman attitudes towards money, one ought to look for the presuppositions made by Roman legal authorities regarding the economic reality around them it. That is, their preliminary hypotheses, the concepts which they seem to have taken for granted, the ideas assumed at the basis of their more juristically compounded designs of contractual relation.

Roman legal evidence—whether used for writing economic, legal, social, or other histories—presents to the historian a set of more specific difficulties. This is particularly true for two of the richest, most detailed legal sources preserved: the *Codex Justinianus* (529 CE), a collection of imperial rescripts;[240] and Justinian's *Digest* (533 CE), a selection from the vast, and now mainly lost, literature of classical Roman jurists.[241] The purpose of the sixth-century compilers of these two monumental legal corpora was not to

[240] Earlier collections of imperial rescripts include the late third- or early fourth-century *Codex Hermogenianus*, the fourth-century *Codex Gregorianus*, and the *Codex Theodosianus* (439 CE). On imperial rescripts, see Honoré (1994).
[241] Long (1875); Kaser (1972).

preserve classical Roman law; rather, they were commissioned with the task of selecting and extracting from classical legal literature those materials which could best serve as a basis for their contemporary legislation.[242] They were 'quite clearly not interested in the disputes of three centuries earlier but in establishing a firm rule for their own time'.[243] Thus, it might have been that specific classical legal interpretation they chose to cite was not the most acceptable interpretation of its time, rather one which had received authoritative status by the sixth century. Additionally, in both Justinian's *Digest* and *Codex*, excerpts are preserved detached from their original, now lost, context, with the possible result of altering their original meaning. The transposition and relocation of classical texts into a new and often widening context, surely in some cases, had given it a novel and generalising meaning, not necessarily intended by classical jurists.[244] Furthermore, the compilers were deliberately required to eliminate contradictions;[245] hence, should be expected to have often reduced, perhaps even omitted, classical discussions of legal controversies.

Another much debated difficulty is the extent to which Justinian's compilers were loyal to the original wording of the classical texts.[246] Changes in wording of classical texts could be attributed to unintentional modifications, on the part of Justinian's compilers or earlier jurists.[247] Errors of copy could be due to misreading, hurry in writing, writing from memory, or simply a lack of textual criticism and repeated checking

[242] Kehoe (1997) 9; Levy (1951) 12-14, who describes Justinian's codification in terms of 'restoration' and 'revival of the classical system'; but, see Thomson (1970) 183-4.
[243] Johnston (1989) 157.
[244] Johnston (1989) 152-7.
[245] *Dig. Const. Deo auctore*, esp. 7-10.
[246] Long (1875) 859-60; Johnston (1989).
[247] Wieacker (1974); Johnston (1989) 155, 159, 161.

techniques so often applied by modern writers.[248] Alternatively, changes could be an outcome of an intentional editorial interpolation. For example, abridgements of original texts, which sometimes result in *lacunae*, misinterpretation, or misunderstanding (by either post-classical jurists, modern readers, or both);[249] or, slight adjustment in the classical texts so as to fit them to a later reality.[250] Adjusting texts to contemporary legal reality was a common, acceptable, even desirable, practice on the part of Justinian's compilers, who were specifically instructed to do so.[251]

The phenomenon of textual interpolation has received overwhelming attention in Romanistic literature, with studious debates on the extent to which Justinian's compilers had substantially altered the classical excerpts.[252] In recent decades the long enduring Romanistic hypothesis, according to which excerpts in the *Digest* have been 'so thoroughly interpolated that opinions of classical jurists can be recovered only after exhaustive reconstruction of the texts',[253] has been replaced with the view that, even though interpolation was common, it did not utterly distort the original texts of classical legal authorities.[254] The possibility that the compilers remained loyal to original wording should not be rejected without cause.[255] In the present study, although the possibility of

[248] Thomson (1970); for inconsistencies in wording due to the use of several manuscripts, see *idem* 181-2.
[249] Arangio-Ruiz (1956) 146f.; Klami (1987) 51.
[250] E.g. monetary units of account: since by Justinian's time denominations used in the first three centuries CE were no long a legal tenure, their names were often replaced by *aureus/-ei*, or, more frequently, simply omitted all together. Interpolations tend to be more frequent in texts which fall under the religious, social, or economic fields; Kaser (1972) 88-90.
[251] Justinian's instructions were to remove as far as possible any multiplications, contradictions, or inconsistencies; and to rewrite that which was *non bene positum*, or *superfluum vel minus perfectum*, or *non recte scriptum*; see, *Dig. Const. Deo auctore*, esp. 7-10.
[252] Wieacker (1960); (1974); Watson (1994).
[253] Kehoe (1997) 9.
[254] Buckland (1941); Kaser (1971) 7-10; Kaser (1972) 98, 104-8; Wieacker (1974); (1988) 154-82; De Neeve (1984) 27-9; Martin (1989) 13; Watson (1994); Kehoe (1997) 9.
[255] Johnston (1989) 156-7, who gives examples of occasions where Justinian's compilers followed original wording (though not avoiding omissions).

interpolation of particular texts is not denied, still, the underlying assumption is that interpolation, when it occurred, did not always necessarily alter the "spirit" of the classical texts. That is, interpolation did not distort classical texts so severely as to prevent an extraction of the preliminary assumptions of classical legal authorities.[256]

On top of problems which stem from the use of collections composed centuries after the original texts were formulated, there are difficulties which arise from the nature ascribed to the writings of the classical Roman jurists themselves. Namely, the degree to which these reflect actual historical conditions, and the extent to which the examples brought forth by classical jurists represent actual real cases. As to the genuineness of the examples cited by Roman jurists, the present study takes on a rather permissive approach. Roman classical legal texts are characterised by their primarily casuistic nature, i.e. by extensive discussions of specific cases.[257] It is not impossible that some of these may have been hypothetical, used to elaborate an argument or advance a juridical discourse; thus, having little to do with real everyday transactions.[258] Nonetheless, in composing rescripts and answering petitions and inquiries, it is not unreasonable to assume that Roman jurists had often had a specific case in mind, which had generated their concern on the issue to begin with.[259] Even though jurists usually aimed to formulate their response as generally as possible,[260] their interest in actual individual cases was not

[256] Kehoe (1997) 9-10.
[257] Kaser (1971) 32-9; (1972); De Neeve (1984) 27.
[258] Though some examples perhaps were not "real responses to real problems", the mere fact of their appearance suggests that such cases were considered possible; Johnston (1999) 22-6; Aubert (2002) 184-5; Peachin (2002) 3-4.
[259] Martin (1989) 13; Kehoe (1997) 10-13, who also remarks on the jurists' tendency towards abstraction in formulating their responses.
[260] Kehoe (1997) 11.

completely eliminated in favour of generalisations and abstract legal principles.[261] It was often later, post-classical jurists who, by taking classical texts which deal with specific case and relocating it in a new context, had stressed, perhaps even invented, a general principle that appears to be inferred from it.[262]

As to the first question, regarding the degree to which classical legal texts reflect actual historical conditions, opinions tend to divide between those who observe the work of Roman jurists as conducted within a rigid, "inward-looking", legal tradition, that was only little influenced by changes in actual social and economic conditions;[263] and those who hold Roman jurists to have been consciously concerned with the actual interests and affairs of their contemporaries.[264] Yet, even scholars who think that legal sources echo, albeit incompletely, real economic conditions, usually accept the claim that classical legal authorities often based their rulings on an abstract, simplified account of reality; however, this simplified reality, they argue, was not detached from the practical world around them.[265] Within the debate on the relation between law and society in the Roman world, the current study follows the second approach, as was cautiously—and convincingly, in my view—advocated by David Johnston in his 2007 publication on the authority of the *paterfamilias*.[266] In this article Johnston chose to stress those themes in which Roman jurists reveal a departure, even though a careful one, from legal principles, in order to

[261] But, see Zimmermann (1996) 340, who claims that the jurists' 'approach to the individual cases brought before them was guided by pragmatic differentiation and careful analysis of typical conflicts of interest rather than by conceptual rigidity. …they themselves were quite uninterested in abstract categorisation', which, according to Zimmermann, was a later development in order '…to prevent the modern lawyer from drowning in the flood of Roman case law'.

[262] Daube (1953) 190-1, who argues that original statements could have been abbreviated 'not simply with a view of saving space, but with a view to producing a general principal'.

[263] E.g. Watson (1995); (2007).

[264] E.g. Crook (1967); Frier (1980); (1989-90).

[265] Crook (1967) 7; De Neeve (1984) 25; Martin (1989) 11-17; Kehoe (1997) 11-3.

[266] Johnston (2007).

serve the interests of their contemporaries according to present-day economic conditions. It is these "departures", i.e. the flexibility displayed by Roman jurists in contrast to the rigidness of law, which the present study aims to trace. While the jurists' inclination towards simplification helps to extract their underlying assumptions about money and the way in which it was thought to have operated in an economic context; their careful deviations from legal principles—i.e. their easing of formalities and moderation of doctrines, where it took place—may suggest fluctuations in actual monetary practices, hence also in common attitudes towards money. Thus, by favouring a 'Law and Society' approach, i.e. by contextualising legal sources with reference to Roman society, historians may 'substantiate larger claims about issues such as labour and commerce'.[267]

[267] Du Plessis (2012a) 5.

Chapter 2: Concepts and Definitions

> Pecuniae verbum non solum numeratam pecuniam complectitur, verum omnem omnino pecuniam, hoc est omnia corpora: nam corpora quoque pecuniae appellatione contineri nemo est qui ambiget.
>
> Ulp. *Dig*. 50.16.178.pr. (49 *ad sab.*)[1]

2.1. Definitions

Much ink has been spilt trying to establish a definition for money; what money is, what it does, and which qualities characterise it. In western tradition, for more than two millennia, money has been associated with coinage and precious metals; the latter perceived as underlying the basis and value of the currency. Yet, both anthropology and modern economic practice clearly demonstrate that coinage is only one, very specific, form for representing money.[2] Different societies use various articles as money, and even within the same society often various monetary instruments are in use.[3] Money can take the form of consumable goods, such as corn, tea, coffee, or livestock; long-lasting artefacts, such as metals, gems, or shells; or records of obligation, such as marked pebbles, or bills of credit. The variety of choice regarding the things which can be, and indeed have been, used as money often 'defies generalizations about the intrinsic

[1] Ulp. *Dig*. 50.16.178.pr. (49 *ad sab.*): 'The designation "money" does not only include coinage but absolutely every kind of money, that is, every substance; for there is no one who doubts that substances are also included in the designation of money'.

[2] Malinowski (1922); Mauss (1925); Einzig (1949); Polanyi (1944); (1957); (1966); Bohannan (1955); (1959); to name only a few of the cornerstones of economic anthropology. Contra the general assumption of Schaps (2004).

[3] Weber (1927).

properties of moneys'.[4]

This variety of choice derives from the fact that although money is often represented by physical objects, money itself is an abstract concept, as it is, above all, a social convention. As put by the Nobel laureate economist, James Tobin: 'Somehow the members of a society agree on what will be acceptable tender in making payments and settling debts among themselves. General agreement to the convention, not the particular media agreed upon, is the source of money's immense value to the society. In this respect money is similar to language [and] standard time'.[5] Social convention plays a role of both cause and effect: it is that which 'makes a society's money generally acceptable within it, and the practice of general acceptability reinforces the convention'.[6]

Recent decades have seen growing agreement across disciplines (economics, sociology, anthropology, and history) to view money as a social convention. Approaches which can be reconciled with this "contract theory of money" can be traced back to seventeenth-century Enlightenment,[7] and, in fact, as early as the ancient Greeks.[8] Already in Pseudo-Plato's *Eryxias* money is recognised as a social convention, pointing out that no form of money is valid everywhere, and that articles used as money in one society may be 'rendered useless' in another.[9] Plato describes *νόμισμα* ('money', 'currency', or 'coinage') as being first and foremost a symbol;[10] and Aristotle presents *νόμισμα* as etymologically derived from *νόμος* ('law', 'convention'), stating that 'it is in our power

[4] Tobin (2008).
[5] Tobin (2008). Similar statements are made in von Mises (1953) 61-2.
[6] Tobin (2008). Seaford (2004) 134-5, who expresses a similar view.
[7] Lagerspetz (1984), who offers a brief survey; Hart (2007), who may also be helpful.
[8] Seaford (2004) 142-4.
[9] Ps. Plat. *Erx.* 399e-400c. And, see Eichholz (1935).
[10] Plat. *Rep*. 371b.

to change it and make it useless'.[11] This approach is echoed also in Roman tradition. Cicero says that inheritance is money (*pecunia*), 'for there are many kinds of money' (*multa enim genera pecunia*).[12] Pliny the Elder describes an evolution from archaic exchange to that of his own days: in the former cattle provided the unit of account with which to reckon value, exchange goods, and pay fines; in the latter it is coinage and precious metals which are used as money.[13] In an excerpt from Paul's *Ad Edictum*, the celebrated third-century jurist makes the point that in creating money a material needs to be selected (*electa materia est*);[14] thereby postulating some process of social acceptance of the selection.

Since 'what is universal and important [about money] is that something is chosen, not what is chosen', *how* exactly do 'members of a society agree on what will be acceptable tender'[15]? Opinions tend to diverge between those who see money as an outcome of directed centralised effort, and those who perceive it as the outcome of 'spontaneous order', arising unintentionally out of the mutual interests of the members of a society.[16] In the scholarship on ancient money historians and numismatists lately tend to attribute the Greek invention of coinage—and specifically its fast diffusion in the Greek world—to the centralised authority of "the state";[17] with the term 'state' understood in

[11] Arist. *EN* 1133ab; Scott (1994); Seaford (2004) 8.
[12] Cic. *Top*. 29; translation is that of Reinhardt (2003).
[13] Plin. *NH* 33.6-7.
[14] Paul. *Dig*. 18.1.1.pr. (33 *ad ed*.), who emphasises the role of the state in this process.
[15] Tobin (2008).
[16] Hart (1986), who puts forward an analysis of money's (i.e. coinage) two sides, heads and tails: the former symbolises the creation of value as a top-down process, the latter as a bottom-up one, i.e. as marking value by "the market". For Game-Theory analyses of money as the outcome of 'spontaneous order', see Schotter (1981); Lagerspetz (1984).
[17] Howgego (1995) 3-4, 14-8, with references to earlier scholarship; Schaps (2004) 93-110, esp. 108: 'it was Greece that was searching for new forms of government and administration to manage the new complexity of the poleis and new ways of organisation to maintain its people, and coins made that

the broader sense of a polity, as the ruling authorities endowed with the power to create laws and enforce tax collection. However, ancient Greek texts preserve also other views. Demosthenes, for example, although he has Solon associating *νόμισμα* with *νόμος* via the authority of the *πόλις*,[18] attributed to Solon the saying that 'money (*ἀργύριον νόμισμα*) had been invented by private persons for private transactions',[19] ascribing the emergence of coinage to a non-centralised process of exchange; an approach which has found supporters also among modern scholars.[20]

In the scholarship on Roman monetary history, from the days of the great Theodor Mommsen up to recent decades, most scholars have been guided by a view which holds central authorities as responsible for the creation of money.[21] As far as the creation of coined money is concerned, and the units of account it represents, this view is undoubtedly correct. It was acknowledged already by the Severan jurist Paul,[22] who depicted the polity (*res publica*) as having both the power to strike value-signs on metal, and—what is of greater importance—the legitimacy to enforce this value. As to the motivation of the Roman authorities in striking coins, this topic is somewhat beyond the scope of the present study. Suffice it to echo Christopher Howgego, who, in his 1990

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administration and organisation simpler and more manageable'; Seaford (2004) 131-6, esp. 135: 'coinage was almost always issued by a state'.

[18] Demos. *Timocr*. 213: '…τοὺς δὲ νόμους ἡγοῖτο νόμισμα τῆς πόλεως εἶναι'.

[19] Demos. *Timocr*. 213: '*εἰπεῖν ὅτι αὐτὸς ἡγεῖται ἀργύριον μὲν νόμισμ' εἶναι τῶν ἰδίων συναλλαγμάτων εἵνεκα τοῖς ἰδιώταις εὑρημένον*...'

[20] E.g. Figueira (1984), who advocates the Greek invention of coinage as one which was created generally in order to facilitate exchange; Cohen (2008), who discusses the non-centralised manner in which credit money had been introduced into, and created by, Athenian economic activity; Davies (1998) 235-6, who offers a short overview of scholarly debate; Seaford (2004) 134-5, who, although stating that 'coinage was almost always issued by a state', nevertheless stresses 'the self-generating dynamic unleashed by coinage', according to which 'because something reaches a degree of acceptability as payment it becomes more and more generally acceptable'; contra Schaps (2004) 97, who argues that 'it is not, on the face of it, likely that coins were designed …merely to facilitate retail trade'.

[21] Mommsen (1860) vii; Howgego (1992); Duncan-Jones (1994); Wolters (1999).

[22] Paul. *Dig*. 18.1.1.pr. (33 *ad ed*.).

article ‘Why did ancient states strike coins?’, lists alongside state expenditure, affirmation of status, personal and collective pride, and quest for prestige, also the ruling authorities’ aspiration to meet the public’s need for coinage, thereby perhaps also to facilitate private trade.[23]

Many of the definitions of money tend to focus on its usages, i.e. what roles does money perform, for what functions or purposes it is used. These are usually divided into three principal categories: medium of exchange (=means of payment),[24] store of wealth, and unit of account (=measure of value).[25] While orthodox neoclassical economics emphasises the use of money as a medium of exchange, with the underlying assumption that ‘money originated as a cost-reducing innovation to replace barter’;[26] Keynesian economics stresses the role of money as a store of wealth.[27] As put by John Maynard Keynes, in a world of uncertainty ‘our desire to hold Money as a store of wealth is a barometer of the degree of our distrust of our own calculations and conventions concerning the future’;[28] thus, money ‘is above all a subtle device for linking the present to the future’.[29] Other approaches emphasise the role of money as a unit of account,[30] and

[23] Howgego (1990) 21-4, with references to ancient texts.
[24] Schaps (2004) 12-13; Seaford (2004) 95-101; Hollander (2007) 59-85; all consider the role of money as a ‘medium of exchange’ as separate from that of ‘means of payment’. I see no real economic difference between the two, except when ‘payments’ signify compulsory recruit of resources enforced by a polity. From an anthropological perspective, however, there is a difference, for ‘payments’ may refer also to transfer of resources which occur not within a strict context of ‘exchange’, e.g. bride-price or wergild (on the latter see, n. 32 in this chapter, below).
[25] Tobin (2008); Krugman and Wells (2009) 383.
[26] Tymoigne and Wray (2006) 1.
[27] Davidson (1972) 102-3.
[28] Keynes (1937) 216.
[29] Keynes (1936) 293-4.
[30] Grierson (1978); Tymoigne and Wray (2006) 1.

stress the importance of credit and debt relations.[31] The latter two—credit and debt relations—are seen not as initially originating from economic transaction; rather, their cradle is perceived to nestle in a world of tribal wergild,[32] communal relations, and social commitments; all of which gave rise to the need for a numeraire in which value could be measured.[33]

The view that sees money—and in particular coinage, its most familiar physical representation—as an invention triggered by a need to facilitate exchange is evident already in Classical Greece.[34] Plato described *νόμισμα* as a 'symbol for the sake of exchange'.[35] Aristotle described a gradual process by which money developed from barter in order to facilitate selling and buying, first by using some substance of useful commodity, then by using metals, then marked metals with signs (*χαρακτὴρ*) indicating its value (*τοῦ ποσοῦ σημεῖον*).[36] And Demosthenes (cited above) attributed to Solon a saying that coinage was invented to facilitate private transactions (*τῶν ἰδίων συναλλαγμάτων*).[37] Centuries later, Pliny the Elder described how money had developed from the use of cattle to that of precious metal, associating this process with trade and the replacement of a barter system by a buying-and-selling one.[38] And the third-century jurist Paul expressed a similar opinion, stating that money was invented to facilitate trade and

[31] Innes (1913); (1914); though hardly referred to before the 1990s; Tymoigne and Wray (2006).
[32] *OED* has "wergild" as 'the price set upon a man according to his rank, paid by way of compensation or fine in cases of homicide and certain other crimes to free the offender from further obligation or punishment'.
[33] Innes (1913); (1914); Polanyi (1968); Grierson (1978); Tymoigne and Wray (2006).
[34] Schaps (2004) 12; Seaford (2004) 131-2.
[35] Plat. *Rep*. 371b.
[36] Arist. *Pol*. 1257a-1258b, esp. 1257a (40); Scott (1994).
[37] Demos. *Timocr*. 213.
[38] Plin. *NH* 33.3.6-7. On the Roman jurists' need to differentiate barter from sale, see Ch. 4, below.

avoid 'the problems of barter by providing a constant medium of exchange'.[39]

In recent decades other approaches for explaining the invention of money have been advocated by scholars. Basing his argument on anthropological models, Richard Seaford has suggested that Greek money originated not solely from the practice of gift giving, but also from that of giving dowries and imposing fines.[40] He then elaborated this approach; listing as preconditions for the invention of coinage seal-marks and writing, and its application in administration and sacrificial customs; while stressing the role of (re)distribution of booty, communal sacrifice, and ritual offerings, in creating the conceptual and mental conditions for the emergence and wide diffusion of coinage.[41] Sitta von Reden has contrasted commodity exchange with civic exchange in a discussion of what she refers to as 'the Commodification of Symbols' embedded in ancient Greek reciprocity;[42] and (elsewhere) has proposed to consider coinage within a wider context of studying Greek conceptions of value.[43] And David Schaps has emphasised the innovative contribution of coinage in transforming money into an abstract form of wealth, thereby echoing Keynesian approaches, although not explicitly referring to Keynes' writings.[44]

Accepting that money is a social convention which measures value, how, then, can the value of money be assessed? Economists measure the value of money in terms of its purchasing power, that is, which goods and services can be acquired with it. This is

[39] Paul. *Dig*. 18.1.1.pr. (33 *ad ed*.). And in so doing, money allows for a clear distinction between barter and sale; on which, see Ch. 4, below.
[40] Seaford (1994).
[41] Seaford (2004).
[42] Von Reden (1998).
[43] Von Reden (1995) 171-94.
[44] Schaps (2004).

evident through aggregate price behaviour, as manifested in the general level of prices. While disagreement may endure as to the technicalities of calculating this variable (i.e. which goods and services are to be included and at what weights), there is general agreement—though not throughout all economic schools of thought[45]—that, while price behaviour of individual goods or services may indicate changes in the relation between the demand for it and its supply, as a principle, fluctuations in the aggregate level of prices provide observable indication of changes in the value of money. In the scholarship on ancient economic history for a long period the value of money, and in particular that of Roman money, was seen as generally represented by the metallic content of the coinage.[46] From the 1990s scholars studying Roman history have implemented in their studies the economic concept of the purchasing power of money, investigating how much money was worth in terms of real goods and services. Several studies dedicated to price evidence draw conclusions from it concerning tendencies in the purchasing power of Roman money.[47] On the whole, price evidence from the first three centuries CE indicates a general long-term stability in the purchasing power of Roman money up to the mid-second century, followed by two periods of instability: one during the second half of the second century, which has been attributed to the effects of the Antonine Plague;[48] the other starting approximately from 274/5, usually ascribed to instabilities in the currency system.[49]

[45] E.g. the Austrian school, see Ch. 1, p. 27 above.
[46] On the existence of some premium, which takes nominal value above metallic value in order to account at least partially for minting costs, see p. 81, n. 205 in this chapter, below.
[47] Wassink (1991); Drexhage (1991); Rathbone (1996); (1997); Strobel (1993); (2003). Early traces of this approach may be found in Strobel (1989); and, to a lesser extent, Crawford (1975) 567, 571, who hypothesised a relative stability of prices more or less up until Aurelian's reign.
[48] Scheidel (2002); (2012).
[49] Howgego (1995) 133; Carrié (2007) 144-5; Haklai-Rotenberg (2011).

Oscillation in prices is acknowledged also by Roman writers.[50] Generally, price increase was considered a "bad" thing, and was perceived as an outcome of human action, stimulated by their avarice.[51] An excerpt from the second-century jurist Gaius suggests that price fluctuations were simply accepted as the natural order of things;[52] with money itself considered as having *potestas*, that is 'power', or, in fact, 'value',[53] which—as pointed out by Gaius—in itself could also oscillate.[54]

As stressed above, various things can be used as money, and different species of money exist side by side, not only across cultures, but also within the same society.[55] Different monetary devices may be used for different activities, each limited to its own sphere of human interaction.[56] This recognition gave rise to the anthropological distinction between "modern" and "primitive" monies,[57] and "all-purpose" and "special-purpose" monies.[58] Under the category of "modern" or "all-purpose" money are found those monies which, like our own, could be used to buy anything, and which

[50] E.g. Plin. *Ep*. 3.19.8.
[51] Plin. *NH* 33.4. A similar approach arises also from Diocletian's 301 Price Edict; Lauffer (1971); Crawford and Reynolds (1979).
[52] Gai. *Dig*. 13.4.3 (9 *ad ed*. *prov*.).
[53] Gai. *Inst*. 1.122, who talks of the *vis et potestas* of *nummi*.
[54] Gai. *Dig*. 13.4.3 (9 *ad ed*. *prov*.): '*pecuniarum quoque licet uideatur una et eadem potestas ubique esse*'. Watson (1985) translated *potestas* as 'purchasing power', but, as this term is charged with modern significances alien to ancient thought, I prefer simply 'power'; and see Ch. 7, pp. 194-5, below.
[55] Weber (1927) 237.
[56] Bohannan (1955); (1959); who analysed the monetary system of the Tiv in central Nigeria. Polanyi (1957); (1966); who analysed the monetary system of the historical West African kingdom of Dahomey. Bohannan's idea of separate "spheres of exchange" continues to influence anthropological research; see, Maurer (2006) 17-8, with further references; and, although Bohannan is not openly cited, his ideas are more than echoed in the division offered by Hollander (2007), into different "monetary zones" in late Republican Rome.
[57] Einzig (1949); Dalton (1965).
[58] Bohannan (1959); Zelizer (1989); (1997); Maurer (2006), who offers a short summary. Against the traditional "modern"/ "all-purpose" vs. "primitive"/ "special-purpose" parallels, see Bloch and Parry (1989); Maurer (2006).

simultaneously serve as medium of exchange, store of wealth, and unit of account. Under the category of "primitive" or "special-purpose" money are found those monetary devices which could be used only for one or two of the three main usages (unit of account, store of wealth, and medium of exchange); or, alternatively, can be used in exchange only for a limited range of goods, or in specific circumstances.[59] While most economists agree that money is that which performs all of the three functions mentioned above, anthropologists argue that money can be understood independently of neither the society which created it, nor the kind of transaction in which it is used.[60]

These anthropological distinctions—"modern"/ "all-purpose" vs. "primitive"/ "special-purpose"—have stimulated also the study of ancient monies. To cite just a few recent examples: Richard Seaford has the dichotomy "primitive" vs. "modern" money at the background of his analysis, and, in fact, as his point of departure;[61] David Schaps often speaks of "modern" vs. "primitive", seeing money as being mainly "all-purpose" and coming into being only with the invention of coinage;[62] Sitta von Reden argues that the monetisation of Ptolemaic Egypt—by which she means the wider introduction of coinage and the development of legal and social institutions that regulate its use—was the first to familiarise Egypt with an "all-purpose" money;[63] and David Hollander argues that the inclination towards "all-purpose" money 'seems to limit Roman money to coinage', and therefore to 'risk overlooking important aspects of the Roman economy'.[64] The

[59] Polanyi (1957); (1968) 189-90; (1977); Bohannan (1959); Maurer (2006) 20.
[60] Polanyi (1957); Dalton (1965); (1971) 167-92; Zelizer (1989); (1997); Bloch and Parry (1989).
[61] Seaford (2004) 1-9, who starts the book with a brief summary of some of the most known examples in anthropology for "primitive money" used as "special purpose money".
[62] Schaps (2004) 12-16.
[63] Von Reden (2007) 1, 31-3.
[64] Hollander (2007) 3.

current study takes after those approaches in economic anthropology which aim at breaking down the traditional dichotomy of "modern"/ "all-purpose" vs. "primitive"/ "special-purpose" monies.[65] As such, it abandons these terms as categorising definitions on which to base discussion, in favour of an analysis which 'operates as if in a hall of mirrors',[66] where qualities assumed for, or ascribed to, each "type" of money—"modern", "primitive", "all-purpose", and "special-purpose"—exist in an awkward relationship of interchanging and interacting with each other.

2.2. Terminology and Meanings

Money is a social convention; as such, it is an abstract concept, a symbol which represents value. In addition to its nonfigurative nature, money also has physical manifestations, in the form of specific objects, be these certain goods (e.g. metal, livestock, agricultural yield, etc.),[67] tokens (e.g. shells, coins,[68] etc.), or records of obligations (e.g. modern paper money, bills of credit, pebbles with markings on them, etc.).[69] This duality of money[70]—being an abstract concept, therefore incorporeal; and being manifested by specific objects, therefore corporeal—is probably a key reason for

[65] Melitz (1970); Bloch and Parry (1989); Maurer (2006);
[66] Maurer (2006) 16.
[67] As pointed by Mises (1953) 62, 'it is a matter of complete indifference what particular commodity' is chosen to act as commodity money.
[68] On the inherent fiduciary nature of coinage, already from its early appearances in the sixth century BCE, see Seaford (2004) 136-46.
[69] Yet, as noted by Tobin (2008): 'Some moneys have been commodities valued independently of their monetary role, intrinsically useful in production or consumption. Others have been tokens of no intrinsic utility and negligible cost of production, coins or pieces of paper. Commodity moneys derive their value partly, and token moneys wholly, from the social convention that designates them as money'.
[70] Gilbert (2005) 361, who argues for 'drawing out the paradoxes of money as always a symbolic referent, a social system, and a material practice'.

both the difficulty of defining money, which was dealt with in the previous section, and the confusing terminology associated with it, dealt with in this section.

The English word 'money' encapsulates within it a variety of meanings. It can refer to cash ('I have no money on me'), currency ('moneychanger'), or wealth in general ('she has a lot of money').[71] Similarly, ancient terminology referring to money is not lacking ambiguities. As noted by Richard Seaford, 'The Greeks have several words which can mean money (as well as other things) but no word precisely equivalent to money'.[72] *Νόμισμα* may mean 'coins', 'currency', or broadly speaking 'money'; *ἀργύριον* can refer to 'a small piece of silver', 'a small silver coin', 'cash', or 'money' in general; *χρήματα* is 'things used or needed',[73] but also, more generally, 'goods', 'property', 'wealth', or 'money'; and both *πλοῦτος* ('wealth') and *ἄργῠρος* ('silver') 'may be used with money in mind'.[74] Similar multiplicity of terms and meanings is apparent also in Latin: *pecunia*, *nummi*, *argentum*, *aes*, and *nomina*, are only several of the words which could signify 'money', as well as other things. As the theme of this work is *Roman* attitudes to money, I elaborate on the Latin vocabulary commonly used to designate 'money', intertwining the discussion with a listing of the pecuniary instruments used in the Roman world.[75]

[71] Some modern languages may have different words for each of these meanings; e.g. in Italian 'currency' is *valuta*, '(cash) money' is *soldi*, and 'moneychanger' is *cambiavalute*; while in other languages the word for 'money' may hold additional meanings; e.g. in French, Irish, and Modern Hebrew, the same word is used to designate both 'money' and 'silver' (*l'argent*, *airgead*, *kesef* (כסף), respectively).
[72] Seaford (2004) 16.
[73] *LSJ*.
[74] Seaford (2004) 16.
[75] In the following paragraphs profound use has been made of the *TLL* and the *OLD*.

I start with coinage, probably the most renowned physical manifestation of money, nowadays as well as in the Roman empire.[76] Numismatic evidence leaves no doubt that coinage was widely used in the Roman world, but the terminology used to describe it is as multifarious as the currencies and denominations in use. Coinage largely was put under the provision of "the state", in the broader sense of a polity endowed with the power to enforce laws and collect taxes.[77] A central imperial government enabled Rome gradually to enforce a method of compatibility and of growing coherence between the different currencies used in its territories;[78] however, this was achieved in a centuries-long process, which came to its completion only with Diocletian's coinage reforms at the end of the third century, a reform which brought an end to the Alexandrian provincial coinage.[79] During the period here under investigation there were many local denominations used in the Roman empire, especially in its eastern provinces, habitually applied in both private transactions and dealings with the authorities. Some of these were prominent currencies whose chief denominations are known to us by name, such as *drachmae* and *tetradrachmae*; for others we have no knowledge of their names, their value, or their classification into denominations, such as is the case with many base-metal small-change Roman provincial coins.[80]

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[76] To take it from Ulp. *Dig*. 50.16.178 (49 *ad sab.*); Herm. *Dig*. 50.16.222 (2 *iur. epit.*), both discussed on pp. 73-7, below.

[77] Coins were legally issued only by the ruling authorities, either imperial or local ones receiving imperial permission to mint; Bolin (1958) 47-50; Crawford (1985) 256-8; Butcher (1988); Burnett, Amandry and Ripollès (1992) Intro.; Howgego (1995) 2-3, 56-9; Harl (1996) 75-7, 88-90.

[78] Crawford (1985) 267-79; Burnett (1987) 46-7; Sutherland (1987) 30-32; Burnett, Amandry and Ripollès (1992) 1-6, 36-7, 52-4; Howgego (1992) 2; (1995) 56-9. Even as late as the third century CE regional differences in the distribution of newly minted coins were, more often than not, substantial; Carrié (2007) 142-3.

[79] The reform, which brought with it the end of "provincial coinage" in Egypt, was probably initiated after defeating the revolt of the usurper Domitius Domitianus; Schwartz (1975); Bowman (2005) 316.

[80] On which, see *RPC*; Burnett, Amandry and Ripollès (1992).

A good example which demonstrates the problems of naming local denominations is the so-called 'blacks' (*μέλαν/ μελαίναι*) of the Babatha Archive.[81] These are mentioned in official documents dated to the beginning of the period here under investigation,[82] where quotas are given for a Roman tax to be collected in coins named 'blacks'. A hypothesis has been put forward, based on inconsistencies in the gender of this unit of account as it appears in the Babatha Archive, that in using *μέλαν/ μελαίναι* the focus was put on the consonantal group *mln*, which 'represents a local variant or corruption of the word for mina'.[83] However, the commoner and more persuasive view holds *μελαίναι* to stand for the colour black, given to a type of billon coins due to their darker colour, and that these coins were in fact Nabataean.[84] The peculiarity of an official Roman document composed more than twenty years after the annexation of the Nabataean kingdom, which states that a tax due to the Roman government is to be paid in a pre-Roman denomination of lesser metallic quality, has not escaped scholars.[85] Yet, this does not prevent the possibility that these 'blacks' were indeed Nabataean coins. Thus, this example well-illustrates not only the problem of naming denominations, but also the on-going gradual process by which Roman monetary standards came to be the dominant units of account.

There is no need here—and surely neither the capacity—to list all names known to have represented currencies and denominations used in the Roman empire. That would produce no additional benefit for advancing our understanding of Roman attitudes towards money, for these all refer to the same pecuniary instrument: coinage. However,

[81] On the Babatha Archive, see Ch. 1, p. 40, above.
[82] *P.Yadin* 5a (Maoza near Petra, Arabia, 110); 16 (Rabbath Moab, Arabia, 127); 21 (Maoza, Arabia, 130); 22 (Maoza, Arabia, 130); *P.Hever*. 60 (Maoza, Arabia, 125); 62 (Rabbath Moab, Arabia, 127).
[83] Lewis (1989) 36; (1996); contra Meshorer (1992).
[84] Weiser and Cotton (1996); Cotton and Yardeni (1997) 171, 192.
[85] Weiser and Cotton (1996).

one specific Latin word which refers to a type of a coin—namely, *nummus*—deserves special attention, as this word encapsulated a capacity to signify a specific coin, coinage in general, and money at large. Before the second century BCE the Latin word *nummus*, most probably related to the Greek word *νόμος*, was used to designate a silver *didrachm* coin,[86] or, alternatively, a gold coin of an equivalent weight, the *stater*.[87] After the Second Punic War one finds *nummus* referring to some type of coin of small value,[88] to the Roman *sestertius*,[89] and perhaps even to the Roman *denarius*.[90] From the late Republic till after the period here under investigation, in addition to being identified with a certain type (or types) of coin, as well as with one denomination or another, *nummus* was used also to signify coins in general.[91] Thus, it came to be used in the sense of money in the form of coinage;[92] cash money, as in the phrases *in nummis*,[93] or *quia ad manum nummos non habebam*;[94] or, simply money at large.[95] Furthermore, *nummus* also gave rise to the name of one of the types of Roman bankers, the *nummularii*, who were mainly money-changers and coin-assayers.[96]

[86] E.g. Pl. *Ps*. 809; *Trin*. 848; *Truc*. 561. Also, see Kay (2009).
[87] E.g. Pl. *Poen*. 732; Cic. *Phil*. 12.20.
[88] E.g. Pl. *As*. 458; Cic. *Ver*. 5.135; *Att*. 6.1.21; Var. *hist. Ann*. 1.
[89] E.g. Quint. *Inst*. 7.6.11; Suet. *Dom*. 4.5; Plin. *NH* 14.56; Apul. *Apol*. 92; Gai. *Inst*. 3.102.
[90] E.g. Liv. 8.11.16; however, this phrase *denari nummi* is perhaps due to a copyist's error.
[91] E.g. Cic. *Phil*. 3.16; *Off*. 3.91; Suet. *Tib*. 58; Gai. *Inst*. 1.122; 2.252.
[92] E.g. Cic. *Off*. 3.80 (on the monetary measures of Gratidianus, see Hollander (2007) 28-9); Plin. *NH* 35.92, *in nummo aureo*; Gel. 3.17.3; Pompon. *Dig*. 12.1.8 (6 *ex plaut*.); Paul. *Dig*. 18.1.1.pr. (33 *ad ed*.).
[93] E.g. Cic. *Att*. 6.9.2; Plin. *Ep*. 9.37.3; Ulp. *Dig*. 2.15.8.24 (5 *de omnib. tribun*.).
[94] Afric. *Dig*. 16.1.19.5 (4 *quaest*.).
[95] E.g. Cic. *Att*. 7.8.5; Ulp. *Dig*. 47.2.48.7 (42 *ad sab*.); Paul. *Dig*. 12.1.2.4 (28 *ad ed*.), where *nummi* and *pecunia* are used as synonyms.
[96] The *nummularii* are first attested in the second half of the second century BCE, and from the first half of the second century CE, they seem to have taken also a role of deposit-bankers (somewhat similar to the *argentarii*), though they probably never participated in auctions; Bürge (1987) 467-76; Andreau (1987) 177-219, 359-60, 387-96; (1999) 31-7, 84-7.

The association coinage-currency-money, which arises from the various meanings attributed to *nummus*/ *nummi*, appears also in the trio coinage-metal-money.[97] Metal in the form of bullion—be it gold, silver, or base metal—acted as a store of wealth,[98] and in some exceptional circumstances also as means of payment,[99] though, as a general rule, it seems not to have preformed the role of a unit of account.[100] The words *aurum* and *argentum* mean the metals gold,[101] and silver,[102] respectively; but also valuable or precious possessions (*res pretiosa*) which could store wealth,[103] and act as means of payment.[104] Where supplemented by the adjective *signatum* they indicate coined money, as in *argentum signatum*,[105] and *aurum signatum*;[106] and, likewise, *aes signatum*.[107] One also finds the more general terms *nummi signati*,[108] and *pecunia signata*,[109] which can

[97] E.g. Cic. *Top*. 13. The association is as follows: Coinage is money; coinage is made of metal; hence, metal is money. Both trifold connections—coinage-currency-money and coinage-metal-money—are found also in modern languages; e.g. the USA dollar can mean a coin (or bill), the currency, and money at large; alternatively, the French *l'argent* means both 'money' and 'silver'.

[98] E.g. Plin. *HN* 33.55-6; Ulp. *Dig*. 48.13.1 (44 *ad sab*.), where metals are a type of pecuniary instrument included within *pecunia sacra religiosa publicave*. See Hollander (2007) 34-5, who gives references to Republican hoard evidence from Italy, Spain, and Romania, where bullion and jewellery were concealed together with coinage; Haupt (2001), who gives coin hoards from third-century Gaul and the German provinces, which also contain bullion.

[99] E.g. Plin. *NH* 33.1, where metals are considered as *rerum pretia*; 33.14; 34.1; Hollander (2007) 31-3.

[100] Although metals were often measured by weight—e.g. Scaev. *Dig*. 40.5.41.3 (4 *respon*.); Hollander (2007) 33-4—weighed bullion usually did not act as unit of account to assess the value of other things. Where the value of possessions of small worth was to be limited, this limit was given in number of coins, rather than pounds of metal; Ulp. *Dig*. 48.20.6 (10 *off. procons*.).

[101] E.g. Plin. *NH* 2.159; 33.126; Gai. *Dig*. 3.4.1.pr. (3 *ad ed*.), on gold-mines (*aurifodinarum*); Ulp. *Dig*. 34.2.19.pr. (20 *ad sab*.); 27.4 (44 *ad sab*.), where gold *sive factum sive infectum* is distinguished from *pecunia signata*, i.e. coined gold. *Aurum* did not represent a gold coin, the name for which was *aureus*; but, see Ulp. *Dig*. 48.10.9.pr. (8 *off. procons*.).

[102] E.g. Plin. *NH* 33.95; 126.

[103] E.g. Cic. *Flac*. 69; *Rep*. 1.27; *Top*. 16; Proc. *Dig*. 34.2.11 (5 *epist*.); Pompon. *Dig*. 34.2.34 (9 *ad quint. muc*.); Paul. *Dig*. 34.2.32.7 (2 *ad vitel*.); 35 (11 *respon*.).

[104] Especially for the authorities; e.g. Cic. *Pis*. 90; Plin. *NH* 33.51; Dio 42.49.

[105] E.g. Cic. *Fam*. 13.29.4; Var. *LL* 5.169; Plin. *NH* 33.42; Paul. *Dig*. 16.3.29.pr. (2 *sent*.); Ulp. *Dig*. 34.2.27.4 (44 *ad sab*.); 47.2.19.3 (40 *ad sab*.).

[106] E.g. Plin. *NH* 33.42; Ulp. *Dig*. 34.2.27.4 (44 *ad sab*.).

[107] E.g. Var. *LL* 5.169.

[108] Wolters (1999).

[109] Cic. *Top*. 53, on which, see discussion below on *numerata pecunia*; Var. *LL* 5.169; *Lex de Gallia Cisalpina* (49-42 BCE), Chs. XXI-XXII, in Crawford (1996) no. 28, pp. 461-77.

refer to both silver and gold coins.[110] *Argentum*, besides signifying silver as coin, also designated silver as currency,[111] as well as money in general;[112] and the word gave rise to the name of at least one type of Roman bankers, the *argentarius*.[113]

Aes likewise presents manifold meanings. It signified the base metals bronze, copper, or brass.[114] It also referred to these metals used as currency; whether struck into coins, as in the expression *in aere*,[115] i.e. 'in [bronze] money'; or used as commodity money, as in the case of *aes grave*,[116] or the symbolical use of *aes et libra* in ceremonies for concluding transactions where ownership changed hands.[117] *Aes*, whether or not supplemented by *signatum*, was also a general name for copper and bronze coins.[118] It could take the meaning of pecuniary payment,[119] or allowance,[120] whether privately or via the central authorities, as in *aes militare*,[121] or *aera stipendiaque*.[122] Also, *aes* could

[110] Ulp. *Dig*. 34.2.19.pr. (20 *ad sab*.).
[111] E.g. Plu. *Ant*. 1.2-3; Afric. *Dig*. 40.4.22 (9 *quaest*.), who has *argenti* treated as *pecunia*; 47.2.62.7 (8 *quaest*.), who has *argenti* and *nummorum* as two separate things.
[112] E.g. Paul. *Dig*. 45.1.140.1 (3 *ad nerat*.); Pompon. *Dig*. 34.2.1.1 (6 *ad sab*.), where *certum pondus argenti* is considered equivalent to *pecunia numerata* of the same value; Mod. *Dig*. 34.2.9 (9 *regul*.), who demonstrates a similar approach in legacies of both gold and silver. For the term *omne argentum quod meum* as referring to all of one's money, see Cic. *Top*. 13; 16; Reinhardt (2003) 218-20, 224-5; and discussion on pp. 74-5, n. 172, below.
[113] The *argentarii* were professional bankers, similar to the Greek *trapezitai*, who acted as deposit-bankers, money-changers, and coin-assayers. They first appear in the Roman Forum between 318 and 310 BCE, and in the second half of the second century BCE they started attending auctions and advancing credit to buyers. The *argentarii*'s presence in documentation declines in the course of the second century CE, and they seem to have disappeared by the time of the Tetrarchy; Bürge (1987) 476-86; Andreau (1987) 61-137, 333-56, 401-38; (1999) 30-49.
[114] E.g. Cic. *Ver*. 2.83; Plin. *NH* 7.125.
[115] E.g. Var. *LL* 9.81; 10.38.
[116] E.g. Liv. 4.60; 32.26.
[117] E.g. Var. *LL* 9.79.83; Gai. *Inst*. 1.119; 1.122, where Gaius explains *aes et libra* by reconstructing an archaic past '*quia olim aereis tantum nummis utebantur*'; 2.102-4; 3.167.
[118] E.g. Cic. *Fam*. 7.13.2; Plin. *NH* 18.12; Var. *LL* 9.83.
[119] E.g. Plin. *NH* 34.1.
[120] E.g. Gai. *Inst*. 4.27.
[121] E.g. Var. *LL* 5.181.
[122] E.g. *CIL* 1.583.77.

signify money in general,[123] as in the common expression *aes alienum*, which signifies borrowed money, i.e. debts.[124]

While the abundance of literary, numismatic, and archaeological evidence shows that Romans widely used coinage and rough metals as pecuniary instruments, their use of other monetary devices is often less apparent. However, non-coined money was a widespread phenomenon. As recent scholarship stresses,[125] Romans made extensive use of credit money (*pecunia credita*, *aes alienum*), using records of debts, as well as of other possessions, as financial instruments;[126] these recently have been labelled as "paper transactions", or "negotiable paper money".[127] These types of records usually were designated by words which had also had other, more general, meanings; hence, our acknowledgement of them as financial instruments may at times be elusive, and derives mainly from the context in which they appear. Under this category one finds *partes*, generally 'parts' or 'portions', but perhaps also shares in businesses and commercial companies;[128] *permutationes*, reciprocal giving and receiving, but also a sort of 'bill-of-

[123] E.g. Var. *LL* 5.44, who takes *aes* to mean either 'money' or 'coined money'; 5.183, who explains the name for the Treasury as derived from *aes*, presumably because the latter designated money; 9.81-2; Cic. *Fam*. 13.62; 15.14.1.

[124] E.g. Cic. *Att*. 6.2.4; *Top*. 5, who uses *aeris alieni* metaphorically to signify the social meaning of debt, which had to do with neither money, nor corporeal possessions; Tac. *Ann*. 3.40, who speaks of *magnitudo aeris alieni*; Ulp. *Dig*. 27.9.5.9 (35 *ad ed*.).

[125] Howgego (1992) 14-16; Rathbone (2003); Harris (2006); (2008c); Hollander (2007); Stelzenberger (2008).

[126] *Litteris obligation*, as called by Gai. *Inst*. 3.128-34.

[127] Harris (2006); (2008c); Hollander (2007); Rathbone and Temin (2008); Stelzenberger (2008); contra Andreau (1999) 132; Lo Cascio (2011), who, although not rejecting the significance of credit money, nevertheless stresses the importance of coined money in balancing the relation between Roman supply of and demand for money.

[128] Plu. *Cat. Ma*. 21.6. For the view that these 'company shares' were tradable, see Malmendier (2005); Hollander (2007) 48-51; but, see Fleckner (2010), esp. 450-98, *non vidi*, who refutes the existence of a market of tradable company shares in the Roman world; Sirks (2012) 212, who supports Fleckner's view and, in n. 1, gives references to further bibliography supporting the opposite view.

exchange', which allows for the transfer of funds over long distances without carrying cash;[129] and *syngraphae,* financial contracts with no clear modern equivalent, signed by both parties, where one side made a commitment to pay the other a specific sum of money, and which were probably used especially by *negotiatores*,[130] or for large transactions.[131]

Perhaps the most renowned and recognisable instances of Roman "negotiable-" or "paper money" were *nomina*; originally records of debt entered in book-keeping under the name of the debtor,[132] and consequently also a general word for loans.[133] Already by the late Republic *nomen*/*nomina* came to designate an abstract form of money, used for both storage of wealth and means of payment.[134] Although Cicero differentiates between *argentum* which was *in arcano* (i.e. in a strongbox) from that which was *in nominibus* (i.e. owed, recorded *in tabulis*),[135] in the period here under research this differentiation seems not to have been in force, as is pointed out by Ulpian's inclusion within *eius omne aurum* also gold which, although not at that moment in the strongbox, can nevertheless be claimed as owned.[136] *Nomina* were a prominent form of wealth: the second-century jurist Scaevola tells of a banker almost all of whose assets (*totam fortunam*) were *in*

[129] Andreau (1999) 132; Verboven (2002) 132-40; Harris (2006) 15; Hollander (2007) 40-44.
[130] On *negotiationes*, especially in the context of seafaring and transport to Rome, see Sirks (1991) 395-402.
[131] Suet. *Jul*. 23.2; Gai. *Inst*. 3.134; Andreau (1999) 137; Hollander (2007) 44-8.
[132] Ulp. *Dig*. 50.16.6.pr. (3 *ad ed*.).
[133] E.g. Cic. *Top*. 16; Pompon. *Dig*. 29.2.37 (5 *ad sab*.); Scaev. *Dig*. 26.7.58.3 (11 *dig*.), who tells of tutors who neglected to place a *pupilla*'s money on loan (*in nomina collocare*); Ulp. *Dig*. 27.9.5.9 (35 *ad ed*.), who says that a pupil's *pecunia* included *in nominibus, quae conveniri possunt*; Paul. *Dig*. 35.2.1.7 (*ad leg. falc*.), who talks of an inheritance which includes also debts (*quod in nominibus est*); Harris (2006); (2008c); Hollander (2007) 51-3; Stelzenberger (2008).
[134] E.g. Cic. *Off*. 3.59: '*Nomina facit, negotium conficit*'; *Verr*. 5.17; Harris (2006); Hollander (2007) 51-2. For the period here under investigation, see Pompon. *Dig*. 46.6.9 (15 *ad sab*.), who says that all which belonged to a pupil includes '*non solum quae in patrimonio habet, sed etiam quae in nominibus sunt*'; Ulp. *Dig*. 15.1.7.4 (29 *ad ed*.), who plainly says that a *peculium* can contain *nomina debitorum*; Paul. *Dig*. 2.14.9.pr. (62 *ad ed*.), who treats *nomina* as equivalent to monetary debts.
[135] Cic. *Top*. 16, where hypothetically *argentum* could refer to 'silver', but see Rinhardt (2003) 224-5.
[136] Ulp. *Dig*. 34.2.27.4 (44 *ad sab*.).

nominibus;[137] his contemporary Julian mentions a *peculium* which *sed in nominibus erit concession*;[138] and the third-century jurist Paul holds *argentum* and *nomina debitorum* as two different pecuniary instruments for storing wealth,[139] and tells of an inheritance that contained *nihil in corporibus, sed omnia in nominibus*.[140] *Nomina* could also be used for making payments, as is demonstrated in an excerpt from Scaevola, where a share of an inheritance is bought *ex qua aliquam summam in nominibus ex kalendario uti daret*.[141] In an excerpt from his contemporary, Pomponius, it looks as if *nomina* were habitually used as payment in sale transactions.[142] The third-century jurist Ulpian says that *nomina* themselves could be, and often were, the object of a sale;[143] and that just as one can sell a debt by selling a *nomen*, so can one sell a *chirographum*,[144] that is, a written record for an undertaking or a promise, often concerned with pecuniary sums.[145]

There is no need to cite all references collected by scholars for the existence of Roman paper transactions.[146] Gaius clearly states that records of debts (*litteris obligatio*) could be traded in and transacted via what he refers to as *nomina transscripticia*,[147] i.e. book-keeping entries that allowed substituting an earlier obligation with a new one, thereby converting ‘a pre-existing debt into a literal contract, which relieved the creditor

[137] Scaev. *Dig*. 40.7.40.8 (24 *dig*.).
[138] Julian. *Dig*. 15.1.16 (12 *dig*.), *ad finem*.
[139] Paul. *Dig*. 31.86.pr. (13 *respon*.).
[140] Paul. *Dig*. 10.2.25.1 (23 *ad ed*.); 36.1.37 (13 *ad ed*.).
[141] Scaev. *Dig*. 44.4.17.2 (27 *dig*.). On *kalendarii*, see Giliberti (1984), *non vidi*; (1999); Sirks (1998).
[142] Pompon. *Dig*. 18.1.19 (31 *ad quint. muc.*).
[143] Ulp. *Dig*. 18.4.17 (43 *ad ed*.).
[144] Ulp. *Dig*. 30.44.5 (22 *ad sab*.).
[145] Gai. *Inst*. 3.134, who notes that both *chirographum* and *syngrapha* were g*enus obligationis proprium peregrinorum*; Ulp. *Dig*. 48.20.6 (10 *off. procons.*), who speaks of *chirographum magnae pecuniae.*
[146] Bürge (1987); Rathbone (2001); (2003); Harris (2006); (2008c); Rathbone and Temin (2008); Stelzenberger (2008); Fleckner (2010), *non vidi*.
[147] Gai. *Inst*. 3.128.

from the burden of proving the origin of the debt'.[148] Gaius even goes further to differentiate between *transscriptiones a re in personam*, where a receipt for an old debt is entered and the same debtor is charged with a new entry, and *transscriptiones a persona in personam*, where a debt registered under the name of one debtor is transferred to the name of another.[149]

All the terms mentioned so far signified 'money' in general, but also specific monetary instruments, as well as other things. The multiplicity of meanings, which the various verbal signifiers of 'money' in the Roman world exhibit, indicate how interconnected the Romans' perception of money was. Money was certainly not merely coinage, nor currency. Nor was it strictly speaking an abstract concept; rather, its verbal signifiers seem to have been inherently connected with its various physical manifestations, keeping in force the tensed duality between abstract and concrete.

We have yet to deal with *pecunia*, probably the Latin word which best correlates with the modern notion of 'money'. *Pecunia* has a variety of meanings, ranging from 'coinage', to 'money',[150] to 'property', to 'wealth'.[151] Roman etymologies of the word tend to connect it with *pecus*, 'cattle', or 'livestock',[152] an important manifestation of wealth in traditional agricultural societies.[153] Whether or not this etymology is

[148] Berger (1953) 597. Also, Bürge (1987) 509-36.
[149] Gai. *Inst*. 3.128-34; Crook (1967) 213-4; Thilo (1980) 290-5, 305-18; Meyer (2004) 108-10.
[150] E.g. Cic. *Leg*. 3.6, who has *pecunia publica* in the sense of the Treasury or public funds.
[151] Hollander (2007) 5-7, who argues that *pecunia* was primarily related with 'wealth' rather than 'cash'.
[152] Var. *RR* 2.1.11; *LL* 5.92; Cic. *Rep.* 2.9; Plin. *NH* 18.3.12; 33.43, who says that the name *pecunia* originated from the fact that Romans had first stamped *aes* with a sign of an ox.
[153] Plin. *NH* 33.7, who mentions an archaic past in which cattle was used to estimate value, make payments, and settle fines.

historically accurate is of little relevance here;[154] what matters is that it was valid in the eyes of educated Romans. Though for the period here under investigation livestock hardly played the role of a pecuniary instrument, this role was assumed, at least partially, by other consumable goods (as well as by providing services).[155] Grain, slaves, land, or rights of residence or usage, had acted—at least in some occasions—as pecuniary instruments, even where their pecuniary role was partial (i.e. "restricted-", or "special-purpose" money; certainly in the case of land and slaves, which probably were not alienable).[156]

Roman legal evidence preserves three definitions for *pecunia*;[157] all of which take a broadening interpretation of the word, understanding it as signifying 'property', hence as including a variety of things. The earliest derives from Gaius' *Institutiones*, a comprehensive composition intended for students of law, completed probably by 160/1 CE.[158] It appears within the context of sureties and the legal obligations of guarantors, in a discussion on the *Lex Cornelia* and the restrictions it sets on *pecunia credita*, i.e. '*pecunia* given on credit'.[159] After stating that *pecunia credita* does not refer solely to

[154] On which, see Kaufmann (1964) 140-2.

[155] E.g. Rathbone (1991) 112-4, 318-30, who shows that in the third-century Appianus estate in Roman Egypt payments were frequently made in kind though conceptualised and calculated in monetary units. As he puts it (p. 318): 'the economy of the [Appianus] estate was essentially monetised, even if in many transactions ... no cash actually changed hands. It was often not necessary for cash to change hands because the estate used a quite sophisticated internal system of credit both for transactions between different units of the estate and for transactions between *phrontistai* [i.e. managers] and their employees'.

[156] Hollander (2007) 59-86.

[157] Gai. *Inst*. 3.124; Ulp. *Dig*. 50.16.178 (49 *ad sab.*); Herm. *Dig*. 50.16.222 (2 *iur. epit.*). Also see Harris (2006) 7; (2008c); Hollander (2007) 5-6.

[158] Gaius was probably not renowned amongst his contemporaries, yet during the four succeeding centuries his work was continuously used and copied by students of law. By the time of Justinian Gaius' authoritative status became unquestionable and he is cited throughout the *Corpus Iuris Civilis*; De Zulueta (1953) 1-11; Jolowicz and Nicholas (1972) 412-3; Robinson (1997) 62-3; Ibbetson (2005) 188; Johnston (2005).

[159] The *lex Cornelia* was passed probably under Sulla's dictatorship in 82/1 BCE; Weiss (1925); De Zulutea (1946) 192.

money which had already been advanced on a loan, but also to all 'which is certain to be owed at the time when the obligation is contracted',[160] Gaius proceeds to define *pecunia*, stressing that the definition is valid in the context of 'this specific law' (*in ea lege*):

> appellatione autem pecuniae omnes res in ea lege significantur; itaque et si uinum uel frumentum aut si fundum uel hominem stipulemur, haec lex obseruanda est.[161]

This broadening definition is quite remarkable. According to Gaius the term *pecunia* covers 'every kind of thing', and the jurist lists as examples movable goods, real-estate, and possession of persons; all of which fall under his own classification of 'corporeal' things,[162] and better fit the modern concept of 'wealth' than that of 'money'.

The other two legal definitions present a similar attitude. Both are preserved in Justinian's *Digest* 50.16,[163] detached from their original now-lost context.[164] The earlier

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[160] Gai. *Inst*. 3.124: '*pecuniam autem creditam dicimus non solum eam, quam credendi causa damus, sed omnem, quam tum, cum contrahitur obligatio, certum est debitum iri, id est, quae sine ulla condicione deducitur in obligationem*'. The emphasis is on what is owed in the first place; since in theory all obligations may be perceived in terms of monetary claims, as the *condemnatio*, the judge's decision whether or not to convict the defended, is phrased in monetary terms. On *condemnatio*, see pp. 86-8, below.

[161] Gai. *Inst.* 3.124: 'Note that the term 'money' in this Act means everything; and so if we stipulate for wine or corn or a farm or a slave, this Act must be adhered to'.

[162] Gai. *Inst*. 2.1-14, esp. 12-14, offers a systematic legal categorisation of the world, dividing all things into those which could be in private ownership (*in nostro patrimonio*) and those which could not (*extra nostrum patrimonium*). The latter are divided between *res sacrae et religiosae* and *res publicae*; while the former are categorised into corporeal and incorporeal, with *pecunia* appearing as one of the examples for *res corporales*. Many historians would agree that by the mid-second century CE Roman juridical thought had shifted towards more structural characteristics; but from where did Gaius derive his analytical framework? Perhaps his inspiration was Cicero's suggestion for a more convenient organisation of *ius civile*; Cic. *Orat*. 1.185-92; Nelson (1985) 37-8. Gaius' distinction between corporeal and incorporeal could have been inspired by Cic. *Top*. 27; if so, then his classification perhaps was not an outcome of actual legal practice; Reinhardt (2003) 241-65. Alternatively, scholars have connected Gaius' approach with the attempt made by Mucius Scaevola to arrange Roman private law '*generatim*'; Scaev. *Dig*. 1.2.2.41 (*enchir*); Watson (1974) 143-57; Wieacker (1988) 596-600.

[163] Titled '*verborum significatione*', a collection of clarifications of specific phrases or words scattered throughout classical legal literature.

[164] Some reconstruction of which can be achieved thanks to Lenel's monumental *Palingenesia* (1889); though corrections have been suggested on specific issues, it remains of utmost usefulness; Johnston (1999) 15-6. Ulpian's definition (*Dig*. 50.16.178.pr.) is excerpted from book 49 of his *ad Sabinum*, a commentary on the work of the early first-century CE Roman jurist Masurius Sabinus. According to

of the two is attributed to the early third-century jurist Ulpian, acknowledged as an authority in his own lifetime,[165] and reads:

> Pecuniae uerbum non solum numeratam pecuniam complectitur, uerum omnem omnino pecuniam, hoc est omnia corpora; nam corpora quoque pecuniae appellatione contineri nemo est qui ambiget.[166]

The later definition is ascribed to the early fourth-century jurist Hermogenian, and reads:

> Pecuniae nomine non solum numerata pecunia, sed omnes res tam soli quam mobiles et tam corpora quam iura continentur.[167]

Similarities between the two definitions cannot be overlooked. Resemblances in wording may be an outcome of a direct link between the two works. Hypothetically, Hermogenian could have relied on his predecessor, Ulpian, perhaps even possessing a copy of his work. But unless some extraordinary evidence shows up, it is doubtful whether such a straightforward connection could ever be established. Alternatively, similarities could be an outcome of the work of the *Digest*'s sixth-century compilers.

Lenel (1889) vol. 2, 1180-90, books 45-50 of this work by Ulpian dealt with formulae of obligations (*de verborum obligatione*), with book 49 concentrating on stipulations required for buying and selling inheritance (*de stipulationibus emptae et venditae hereditatis*). Fragments from other commentaries on Sabinus' now-lost work, a reconstruction of which is offered in Lenel (1889) vol. 2, 1257-60, suggest that *pecunia* was commonly used in this context: e.g. Pompon. *Dig.* 18.4.3 (27 *ad sab*.), who deals with the loss of *pecunia* in the course of a sale of an inheritance; Paul. *Dig.* 45.1.4.1 (12 *ad sab*.), who mentions *poena certae pecuniae* as part of a discussion concerning complications of inheritance. Hermogenian's definition (*Dig*. 50.16.222) is excerpted from his now-lost *Epitome of Law*, for which unfortunately there is no parallel text. According to Lenel (1889) vol. 1, 269-270, this excerpt originally appeared in a discussion on sale. Lenel places it after an excerpt concerning the rights of sellers; Herm. *Dig.* 18.4.23.1 (2 *iur. epit*.); and just before a section on contracts of lease and hire (*locatio conductio*). That a definition for *pecunia* appeared somewhere within a discussion dealing with purchase, sale, hire, or lease, is most plausible.

[165] Ulpian, one of the eminent jurists to have worked under the Severans, had served in various public offices, reaching the high office of Praetorian Prefect in the reign of Alexander Severus (222-3/4); Honoré (2002) 1-36, esp. n. 1, with further references.

[166] Ulp. *Dig*. 50.16.178.pr. (49 *ad sab*.): 'The designation 'money' does not only include coinage but absolutely every kind of money, that is, every substance; for there is no one who doubts that substances are also included in the designation of money'.

[167] Herm. *Dig*. 50.16.222 (2 *iur. epit*.): 'In the designation of 'money' is included not only coinage but everything whether immobile or mobile and whether it is an object or a claim'.

However, if the compilers had indeed introduced interpolations, one would expect the two definitions to have had more in common; and considering how closely located within the *Digest*'s structure the two definitions are—in the same chapter only 44 citations apart—perhaps even to have been united into a single definition. A closer comparison reveals that the two definitions are far from identical. Where Ulpian uses *uerum* as contrasting participle, Hermogenian uses *sed*; and where Ulpian reads *omnia corpora* ('all bodily/ concrete objects'), Hermogenian reads *omnes res* ('all things') (a difference which is further discussed below). In view of these differences, it seems reasonable to postulate that the two definitions derive from independent works.

The fact that both open by emphasising that 'money' is *non solum numerata pecunia*, hints that in Roman perception this was the best-known representation of money. The term *numerata pecunia* deserves elaboration.[168] *Numerata pecunia*, literally 'money (or wealth) counted out', is usually used in the sense of coined money.[169] Additionally, it can refer to cash, and also to money in general.[170] The first-century BCE jurist Alfenus Varus uses the phrase as referring to a specific sum, i.e. an amount of money which can be counted, presumably in the form of coinage.[171] Cicero states that *numerata pecunia*, too, should be included within a legacy of *omne argentum*, 'for the

[168] Also, see discussion in Chs. 4 and 5, below.

[169] E.g. Papin. *Dig*. 30.51 (4 *quaest*.), who, in the context of bequeaths, distinguishes between 'certain coins' (*certi nummi*), which acted as specific artefacts (*corpora*), and coins in general (*numerata pecunia*), which acted as a sum of money, hence could be replaced by any coins representing an equivalent sum.

[170] *OLD*; Berger (1953) 602, who holds *numerare pecuniam* to mean 'to repay a debt in cash' (hence, *numerare pretium* is to pay a purchase-price in cash); Hollander (2007) 6. In Just. *Inst*. 2.4.2, the term *numerata pecunia* seems to refer to both coinage and money in general.

[171] Alf. *Dig*. 19.2.31 (5 *a paul. epit*.).

species is never dissociated from the genus' (*forma enim a genere*).[172] In a famous inscription from Ephesus, titled by scholars 'The Customs Law of Asia', appears the phrase *νομίσματός τε ἠριθμημένου* (l. 61), no doubt a Greek translation for the Latin *pecunia numerata*, and, as it is preceded by *ὑπέρ τε χαλκοῦ καὶ ἀργύρου κεχαραγμένου* (i.e. *pro aere argentoque signato*), it likely denoted coined money, or cash.[173] Gaius, when considering types of generic goods which could be given within a type of a loan called *mutuum*, that is goods for which a substitute may be given, lists also *pecunia numerata*, here meaning either cash money or coinage.[174] And in an excerpt from Ulpian concerning the *senatus consultum Macedonianum*, which states that a person who has lent money to a son-in-power (*qui filio familias mutuam pecuniam dedisset*) is to have no claim or action even after the death of the father,[175] the celebrated jurist states that even though the wording of the *SC* (i.e. *mutuam pecuniam dedisset*) seem to him as referring to *numerata pecunia*, still it should be understood as including *non solum numeratae pecuniae*, but also loans (*mutui*) of corn or wine or oil (*frumento vel vino vel oleo*). In which case, *numerata pecunia* appears to have been understood in the narrower sense of coinage or cash, as opposed to money at large; that is, *pecunia* in the wider sense of 'property' or 'wealth'.[176]

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[172] Cic. *Top*. 13; 53. While *argentum* could mean 'silver', here it probably referred to 'money', with *numerata pecunia* to be understood as coined money; Reinhardt (2003) 122-3, for English translation. Cicero's observation, however, stands in contradiction to later juridical procedures: Ulp. *Dig*. 34.2.19.pr. (20 *ad sab*.), who explicitly excluded *pecunia signata* (i.e. coinage) from *aurum vel argentum legatum est*; 34.2.27.1 (44 *ad sab*.), who holds coins as not included (*nummos non contineri*) within *argentum omne legatum est*. For a fuller discussion, see Watson (1971) 147-51; Reinhardt (2003) 217-20, 225.

[173] Cottier, Crawford, *et al*. (2008) 50-1, 122-3. On Latinisims present in Greek texts, see Meyer (2007) 62.

[174] Gai. *Dig*. 44.7.1.2 (2 *aure*.). Unlike the case with *depositum*, where the things given remained the property of the *depositor*, a *mutuum* may be returned with a substitute.

[175] Ulp. *Dig*. 14.6.1.pr. (29 *ad ed*.).

[176] Ulp. *Dig*. 14.6.7.3 (29 *ad ed*.); and see discussions on Ch. 4, pp. 122-3, and Ch. 5, p. 176, below. This is because *mutuum* concerns generic goods, for which a substitute may be given.

Coming back to the definitions of *pecunia* offered by Ulpian and Hermogenian, the general claim of both is similar: that all things could be considered as 'money'. Yet, while Ulpian's definition briefly states *omnia corpora*, 'all bodily or concrete objects', with no further elaboration; Hermogenian's definition is more detailed. He starts by saying that *pecunia* is *omnes res* with the word *res* in itself having a wide meaning (and see n. 179 below), and then details that it includes both real-estate (*soli*) and movables (*mobiles*), as well as 'concrete objects' (*corpora*) and 'claims'/'rights' (*iura*). Should it be inferred from it that only in a later period was the meaning of *pecunia* widened to include also *iura*, i.e. legal claims openly defined by Gaius as incorporeals (Gai. *Inst.* 2.14)? The answer, I believe, is probably not.[177] An excerpt from Ulpian's contemporary, Paul,[178] which considers the difference between 'money' (*pecunia*) and 'a thing' (*res*), states that *pecunia* 'relates to those things that form part of our patrimony',[179] which is the sum of possessions inherited through generations; whether or not these are corporeal, receives no mention. That a patrimony (hence, also an inheritance) included also incorporeals, i.e. obligations, and *quae sub condicione sunt promissa*,[180] is unquestionable.[181] Should it be understood that all which was *in patrimonio* could be considered as *pecunia*? Paul's excerpt neither contradicts nor confirms this suggestion, but from Cicero's writings—where it is stated that *hereditas est pecunia*—it is clear that this could indeed be so.[182] This view was valid also in the third century CE, as can be

[177] Harris (2006) 7.
[178] Paul, too, served as Praetorian Prefect under Alexander Severus.
[179] Paul, *Dig.* 50.16.5.pr. (2 *ad ed.*): '*'Rei' appellatio latior est quam 'pecuniae', quia etiam ea, quae extra computationem patrimonii nostri sunt, continet, cum pecuniae significatio ad ea referatur, quae in patrimonio sunt*'.
[180] Marcel. *Dig.* 36.1.46.1 (15 *dig.*).
[181] Gai. *Inst.* 2.2-14, who states that 'our patrimony' can include both corporeals and incorporeals.
[182] Cic. *Inv.* 2.148; *Top.* 29, who defines an inheritance as *pecunia*.

extracted from an excerpt from Ulpian, who, where discussing the sale of a pupil's land in order to settle a debt, says that the praetor needs first to investigate whether the money (*pecunia*) could be raised in some other way, listing coins (*in numerato*), debts (*in nominibus*), yields (*in fructibus*), or rents (*in redituum*).[183] The analogy made by Ulpian between *pecunia* and 'property', be the latter manifested in corporeals or in legal obligations, arises also from all three legal definitions of *pecunia* mentioned above; and it is echoed also in evidence postdating the period here under investigation. The fourth-century grammarian Marius Servius Honoratus offers an etymology for *pecunia* which relates the word to *peculium*, that portion of the *paterfamilias*' property given to a son-in-power or a slave for their own use.[184]

To summarise, *pecunia* simultaneously meant 'money' as well as 'wealth',[185] in the sense of one's possessions.[186] It included, alongside coinage and cash, also goods, real-estate, obligations (i.e. legal claims), and possession of persons. This approach fits with Aristotle's observation that money becomes a universal form of wealth, because 'everything can be expressed (*τετιμήσθαι*) in money';[187] and is to be contrasted with the prominent position which coined money had occupied up until recently in modern research on Roman money.[188] Yet, even though certain things were regarded as 'money' in some circumstances, these were not considered as such in any circumstances.[189] That

[183] Ulp. *Dig*. 27.9.5.9 (35 *ad ed*.).
[184] Serv. *Ecl*. 1.32.
[185] *OED* defines 'wealth' as 'Abundance of possessions or of valuable products; A collective term for those things the abundant possession of which (by a person or a community) constitutes riches'.
[186] Cic. *Inv*. 2.148; *Top*. 29.
[187] Arist. *EN* 1133b l4-5; Scott (1994) 34; Seaford (2004) 100-1.
[188] Harris (2006) 1-2, esp. nn. 3-9; (2008b) 1-2; (2008c); Hollander (2007) 1-2, esp. n. 3.
[189] Pompon. *Dig*. 46.4.10 (26 *ad sab*.), who demonstrates how laws could, and did, differ when different forms of wealth were considered. Although under certain circumstances *numerata pecunia* and slaves

everything could be 'money', does not prove that it always was so;[190] and things usually not perceived as monetary instruments could nevertheless, under certain circumstances, act as manifestations of money.

2.3. The Properties of Money

The previous section commenced by stressing the inherent duality of money: money is a social convention, hence an abstract notion; and at the same time it has physical manifestations, which are, by their nature, corporeal and concrete. These two aspects of money—the abstract and the tangible—are inseparably intertwined. In tracing the properties of money it is difficult not to mix characteristics of money's materiality on the one hand, i.e. the physiognomies of things chosen to manifest money, and characteristics of money's abstraction on the other, i.e. those properties which derive from the fact that money is a social relation, an idea which receives its significance from social consent.[191]

As far as the materiality of money is concerned, its properties have received immense attention from anthropologists, sociologists, and philosophers, and traditionally have been defined with western experience in mind. Objects or things chosen to be used as money are conventionally expected to manifest the following properties: 1) Durability, be it a lasting one, as in the case of metals or shells, or a shorter one, as in the case of consumable goods such as tea or grain. Even things whose existence is more short-lived,

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could both be considered as *pecunia*—as in the definitions of *pecunia* cited above—, these did not automatically receive the same legal treatment in all circumstances.

[190] Seaford (2004) 148: 'all money is wealth, but wealth is money only to the extent that it is envisaged as capable of money-functions'; similarly, Hollander (2007) 12.

[191] Gilbert (2005); Maurer (2006).

e.g. livestock, can fulfil monetary roles and have done so. 2) Portability, which allows monetary artefacts to be carried by individuals with little or no effort, as well as easily to change ownership. 3) Divisibility, i.e. the substance chosen to be used as money is expected to be capable of being divided into smaller parts. However, some artefacts which clearly acted as money—such as shells, livestock, or cigarettes—cannot be divided into smaller units; in which case, non-divisibility is compensated by an ability to accumulate money, an accumulation which later becomes divisible. 4) Money is expected to be homogeneous.[192] That is, things chosen to be used as physical manifestations of money are selected thanks to their inherited or ascribed uniformity. Each pecuniary artefact—be it a shell, a cigarette, a piece of metal, or other—is considered as equivalent to, hence as replaceable by, any of the other similar artefacts. This gives rise to 5) the randomness characteristic of money;[193] i.e. because objects which represent money are expected to be identical, or more precisely are perceived as such, money encompasses the ability randomly to replace any one piece of it with an equivalent other.

Next to be considered are properties which derive from money's abstractness; mainly, from its most distinctive abstract feature: being a numeraire. Money allows the transformation of physical object(s) into numerical units, thereby creating a conceptual framework that enables the use of mathematical figures for evaluating (all) other things.[194] Because money is a sign which takes the form of a mathematical figure,[195] it enables enumeration as well as commensuration of things which otherwise are conceived

[192] Seaford (2004) 149-52, on ancient Greek money.
[193] Zimmermann (1996) 279.
[194] Seaford (2004) 169; Cuomo (2007).
[195] Cuomo (2007), for a detailed discussion of the relation between money, sign, and mathematics in second-century CE Roman empire.

as belonging to different spheres of life.[196] The practical implication of this abstraction is that money is to be counted rather than weighed.[197] Roman legal texts often include *pecunia* within a category of 'things which can be weighed, numbered or measured';[198] however, as stated by Gaius, weighing coined metal, rather than counting it, was an archaic practice, which should be contrasted with that of his own time.[199]

In this respect, the Greek invention of coinage can rightly be seen as an opening salvo for a 'shift from intrinsic to socially conferred value' of money.[200] Richard Seaford had argued for ancient Greece that 'it is in coinage that this homogeneity of money acquires perfection, for the stamp of a coin renders all small variations of quality and quantity irrelevant'.[201] His observation, however, does not apply to all cases of coined money; coins could, and did, act as ingots of precious metals.[202] Hoard evidence demonstrates that the intrinsic metallic value of Roman coins clearly did matter.[203] Though Roman coins were generally treated as homogeneous artefacts, in certain circumstances they could also act as specific objects (*corpora*), therefore could not be replaced by equivalent coins.[204] Be that as it may, by striking metal into coinage the raw

[196] Maurer (2006).
[197] Seaford (2004) 144, for Greek coinage.
[198] Paul. *Dig*. 12.1.2.1 (28 *ad ed*.); Pompon. *Dig*. 12.1.3 (27 *ad sab*.); Gai. *Inst*. 3.90, who explicitly includes money (*numerata pecunia*); Just. *Inst*. 3.14.pr.
[199] Gai. *Inst*. 1.122.
[200] Seaford (2004) 142.
[201] *Idem* 149, 171.
[202] One example, relatively close in time to the period here under investigation, is early fourth-century gold coins; according to the Aezani copy of Diocletian's Price Edict their value as coinage equaled their value as gold ingots; Crawford and Reynolds (1979).
[203] Hoarding patterns strongly suggest that the coins' metallic value did assume a role of guarantee for hedging purposes; Bolin (1958) 336-57; Schubert (1992); Haupt (2001); to name only a few studies.
[204] E.g. Papin. *Dig*. 30.51 (4 *quaest*.); on which, see Ch. 8, p. 248, below.

material had been given an additional value, which exceeded that of its metallic value;[205] and this is acknowledged already in the first-century CE by Pliny the Elder, who says that by adding pictures to gold and silver it became more valuable.[206]

Last to be considered is money's impersonality. Unlike specific precious artefacts, e.g. gold rings or talismanic objects,[207] money is not unique. It is impersonal in the sense that it is available in random quantity, i.e. any one piece of it may randomly be replaced with an equivalent other. Its impersonality is evident in the ability to exchange money with anyone and for anything. In this sense money is universal; it can serve as a means to any purpose,[208] hence may become an aim in itself.[209] As put forth by the anthropologist Keith Hart: 'Money was traditionally impersonal so that it could retain its value when it moved between people who might not even know each other. … Money in this form is an instrument detached from the person who uses it'.[210] Thus, money is impersonal also in the sense that it is not associated with any specific individual as such, but only with those individuals—rulers and their family, in the case of Hellenistic and Roman coins; public officials and benefactors, in the case of Greek and Hellenistic coins—, who represent the collectiveness of the community, the authoritative power of a polity, the essence of communal identity (e.g. *Romanitas*), or the legitimacy of the supremacy (e.g. *Imperium*).

[205] Some margin must have existed between the coins' metallic value and the value at which these were issued, which accounted for (at least part of) the minting costs; Howgego (1990) 18-9; Aubert (2003) 246; Haklai-Rotenberg (2011).
[206] Plin. *NH* 33.4.
[207] On value as a mythical idea in ancient Greece, see Gernet (1981) 73-111, esp. 105-6, for contribution to the invention of money.
[208] Seaford (2004) 162-5, who considers the role of money in ancient Greece in acquiring divine favour, political power, and human skills.
[209] Arist. *EN* 1133b l4-5. Also, see Seaford (2004) 159-62, who speaks of the transcendent nature of money.
[210] Hart (2007) 12.

Part II: Institutional Framework

Chapter 3: Money in Exchange: An Introduction

> 'Institutions are the structure that humans impose on human interaction and therefore define the incentives that, together with the other constraints (budget, technology, etc.), determine the choices that individuals make that shape the performance of societies and economies over time.'[1]

3.1. Introduction

As regards methodology Part Two, as its title suggests, looks at the institutionalised role of money in exchange transaction as reflected in Roman law. It relies on approaches advanced by New Institutionalism, and in particular New Institutional Economics (NIE), promoting a widening interpretation of the term 'institution', seeing it as composed of "three pillars" of institutional framework: regulative, normative and cognitive. The regulative pillar sets the ground rules for interaction as reflected in laws, and the extent to which these are effectively monitored and enforced. The normative pillar consists of beliefs, values, and norms that define expected behaviour in a society. The cognitive pillar is comprised of the mental structures embedded in a society, i.e. the widely shared social knowledge and cognitive categories which determine the course of action chosen by individuals.[2] NIE follows this approach seeing institutions as including both formal rules and informal constrains; that is, conventions, norms of behaviour, and self-imposed codes of conduct, as well as their

[1] North (1993) 35.
[2] Scott (2001) 34-51.

enforcement characteristics.[3] These constitute the regulative and the normative institutional frameworks. Under the cognitive institutional framework fall those socially legitimised structures of thought with which individuals grasp reality, construct their choices and form their actions.[4] In other words, the cognitive framework is made of the "belief-systems" which sustain and determine economic interaction. It includes those formations of cognitive dimension that direct human affairs in the aggregate level. Both 'market' and 'money' serve as good examples, since both are abstract notions—albeit with physical manifestations—which dictate patterns of behaviour.

NIE understands institutions as setting "the rules of the game" by which economic performance occurs. It focuses on the simultaneously causal links between institutions and economic performance, analysing them with the help of conceptual formations such as property rights, credible commitments, and transaction costs.[5] As put forth by Bruce Frier and Dennis Kehoe, 'whether through evolution or conscious design, institutions provide rich information upon which actors can develop expectations regarding the future behaviour of other actors'.[6] In doing so, institutions 'provide the structure that humans impose on human interaction in order to reduce uncertainty',[7] and serve to diminish some of the unknowns with which agents are faced.[8]

Part Two adopts this approach as guidelines. Chapter 3 lays out several underlying observations regarding money as an institution, and Roman legal classification of exchange transaction. Subsequent chapters discuss the institutionalised

[3] To paraphrase on North (1997) 225.
[4] North (1990); (1991); Arthur, Durlauf and Lane (1997).
[5] North (1990); Eggertsson (1996).
[6] Frier and Kehoe (2007) 118; relying on Schotter (1981).
[7] North (1997) 225.
[8] North (1990); (1991).

role of money in exchange generally following Roman legal categorisation into contracts: Chapter 4 concerns the Roman contract of sale (*emptio venditio*); Chapter 5 that of leasing and hiring (*locatio conductio*); and Chapter 6 considers legal procedures for contracting monetary loans. By no means does it offers an attempt at the colossal task of systematically covering every aspect of every legal format relevant for contracting exchange; that would be beyond the volume of this study or the capacity of its author. Instead discussions focus on several specific issues most crucial for institutionalising the use of money in exchange. Since exchange is defined as a reciprocal process,[9] transfer of resources which occurred under legal formations that do not include a strictly speaking reciprocal component—such as gifts, dowries, taxes, and tributes—are not addressed here.

3.2. Money as an Institution

To begin with, money itself is an institution based on social convention.[10] Viewed in terms of a normative institutional formation, money, in the sense of a durable means to store wealth, allows individuals to better face future uncertainties, hence plan their course of action in accordance with their ability to reserve resources over time and between generations.[11] In this respect, money is a risk-reducing institution, allowing individuals to secure themselves against (some of) the future's unknowns. Money is also a cognitive institutional formation. Being a unit of account, a numeraire, a standard through which

[9] See section 3.3, below.
[10] See Ch. 2, above; Schotter (1981) 35-8, who applies Game Theory to explain how money evolved to resolve a coordination problem.
[11] This role of money is stressed in Keynesian tradition of economic thought; Keynes (1937) 215-8; (1936) esp. 293-4; Davidson (1972) 102-3.

individuals grasp reality, money is in fact a mental structure with which individuals comprehend their (social) reality;[12] hence also it affects how they determine their choice of action. From an economic perspective money, in the sense of a unit of account, allows calculating and comparing things of different nature. As such money can be viewed as an institution which reduces the cost of exchange,[13] as it provides parties with a mechanism easier than barter to satisfy their wants.[14] This mechanism is condensed into the notion of a "price"; that is, a certain amount fixed in monetary units of account.[15] Economics takes this notion one step further. It argues that the existence of money—in the sense of a universal abstract numeraire, through which value is quantified and compared—allows the creation of a flexible price mechanism, which, in turn, encapsulates "market information" in the aggregate level regarding production costs and tendencies of demand and supply. Since market prices conceal this otherwise costly-to-obtain information, the existence of money holds the potential of reducing transaction costs,[16] with the latter defined at the most general level as the costs which arise beyond the point of production to affect the allocation of goods and services.[17]

Perhaps one of the most straightforward indicators for Roman institutionalisation of money as a numeraire is its application within *condemnatio*. I certainly do not attempt

[12] Also, Seaford (2004), who argues that using abstract, homogeneous money in the form of coinage, was a catalyser for new patterns of thought in areas such as cosmology, philosophy, and tragedy.
[13] The neoclassical approach, Tymoigne and Wray (2006) 1.
[14] A similar view was expressed in Paul. *Dig*. 18.1.1.pr. (33 *ad ed*.).
[15] On how this notion came to be formulated by classical Roman jurists, see the following chapter.
[16] North (1991).
[17] Neoclassical economics traditionally understood transaction costs in a narrow price-based sense, as 'the direct costs that an economic agent incurs when engaging in a market transaction', e.g. transport costs or acquiring services of middlemen; Klaes (2008). Since the 1960s more relational interpretations of transaction costs have gained acceptance among economists, who include under this term the costs of pre-sale inspection, contracting, fulfilment, policing, and enforcement; Coase (1937); (1960); (1974); Calabresi (1968); Alston (2008); Klaes (2008). Relational transaction costs have received a seminal role within NIE, which sees social and legal institutions as mechanisms that reduce uncertainty and provide means to mitigate transaction costs; North (1991); Alston (2008).

to offer an overview of this essential topic to Roman jurisprudence; suffice it to cite Gaius' general notes on *condemnatio*, which demonstrate the centrality of money as a cognitive institutional formation that enables conceptualising value. According to Gaius, as a general rule, '*condemnatio* may be expressed in the formula in terms of a fixed sum (*certa pecunia*) or an indefinite sum'.[18] In the former, a suit could be brought forth for *certae pecuniae*, or for *certae rei*.[19] In both instances the *condemnatio* would be conceptualised in monetary terms (*ad pecuniariam aestimationem*); i.e. 'the judge does not condemn the defender to hand over the actual property, as was the custom in former times, but its estimated value in money (*pecunia*)'.[20] In the latter case, where *condemnatio* was for an indefinite sum, the suit could either set a numerical cap in advance (i.e. 'to pay no more than so and so'), or no cap was set at all and the judge was asked to condemn the defender 'to pay the value of the matter'.[21] At any rate, if the judge decided to condemn a defender, he also had to fix the pecuniary sum (*certa pecunia*) which the latter was to pay.[22] Thus, money was the official quantifier of value of the Roman state. Plaintiffs were to state their demands in monetary terms, and where they failed to do so, it was left to the official representative of the state (the *iudex*)—if indeed

[18] Gai. *Inst*. 4.49: '*Condemnatio autem uel certae pecuniae in formula proponitur uel incertae*'.
[19] Kaser (1971) 492-3.
[20] Gai. *Inst*. 4.48: '*Omnium autem formularum, quae condemnationem habent, ad pecuniariam aestimationem condemnatio concepta est. itaque et si corpus aliquod petamus, uelut fundum, hominem, uestem, aurum, argentum, iudex non ipsam rem condemnat eum, cum quo actum est, sicut olim fieri solebat, sed aestimata re pecuniam eum condemnat*'.
[21] Gai. *Inst*. 4.51: '*Incertae uero condemnatio pecuniae duplicem significationem habet. est enim una cum aliqua praefinitione, quae uulgo dicitur cum taxatione, uelut si incertum aliquid petamus; nam illic ima parte formulae ita est: EIVS, IVDEX, NVMERIVM NEGIDIVM AVLO AGERIO DVMTAXAT SESTERTIVM X MILIA CONDEMNA. SI NON PARET, ABSOLVE. uel incerta est et infinita, uelut si rem aliquam a possidente nostram esse petamus, id est, si in rem agamus uel ad exhibendum. nam illic ita est: QVANTI EA RES ERIT, TANTAM PECVNIAM, IVDEX, NVMERIVM NEGIDIVM AVLO AGERIO CONDEMNA. SI NON PARET, ABSOLVITO*'.
[22] Gai. *Inst*. 4.51, *ad finem*: '*iudex, si condemnet, certam pecuniam condemnare debet, etsi certa pecunia in condemnatione posita non sit*'.

he had condemned the defender—to set the pecuniary value that, in his view, would offer sufficient compensation.[23]

Although the source of money's immense value to society lies in the general agreement to money as a social convention,[24] more often than not money is not established solely on voluntary social consent. Rather, it is institutionalised as well as regulated by the ruling authorities of a polity, and from the sixth century BCE this was accomplished first and foremost in the form of coinage.[25] In the Roman world imperial authorities were responsible, both directly and indirectly, for coin production, as well as for its distribution.[26] This meant that Roman authorities were responsible also for organising the structure of the monetary system by setting the magnitude and scale of denominations, which, in turn, form a configuration of money. To this should be added the Roman authorities' intervention in regulating the relation between the different currencies used within the empire's borders.[27] Some of these currencies predated Roman conquest, and, once subordinated to Roman rule, were put with gradually increasing vigour under the supervision of central authorities.[28]

Roman money was not exclusively coinage; it consisted of both cash and credit, and was represented by both commodities and tokens.[29] Nevertheless, the units of account, which formed its structure and determined the numerical standards with which value was conceptualised, were regulated by Rome's ruling authorities. These units of

[23] Gai. *Inst*. 4.52-60, who details how to fix a sum so that it would be not too large or too small.
[24] Tobin (2008); and see previous chapter.
[25] Similarly, Seaford (2004) 135.
[26] Scholarship on the topit is vast; here I cite only Hopkins (1980); Howgego (1992); (1994); (1990) 19-20, who considers the possibility of private individuals striking coins in official (i.e. state) mints.
[27] E.g. *OGIS* 484 (Pergamum, second century CE); on which, see Macro (1976).
[28] Crawford (1985) 267-79; Burnett (1987) 46-7; Sutherland (1987) 30-32; Burnett *et al.* (1992) 1-6, 36-7, 52-4; Howgego (1992) 2.
[29] Harris (2006); (2008c); Hollander (2007).

account were represented by denominations, which, like the notion of money itself, display a Janus-faced oddity. Denominations are abstract mathematical ideas, i.e. fractions and multiples, which often, though certainly not always, obtain physical manifestation in the form of coins,[30] which are in turn regulated by the ruling authorities. By affirming the scale and magnitude of the numerical construction of money Roman central authorities were indeed responsible for the creation of the structural framework of money,[31] though not its aggregate supply.[32]

3.3. Approaching Exchange

Broadly speaking, exchange is a reciprocal act of giving and receiving of things in general.[33] It is a process, by which parties transfer between them control over resources and commodities in order to gain from bilateral bargaining and contracting.[34] It includes transactions in which a complete transfer of ownership takes place (as in modern sale), as well as transactions in which only a temporal or restricted transfer of rights occurs; that is, when one party or more obtain permission to use resources which are not their own, as is the case in lease, tenancy, hire, employment, or loan. The view adopted here is that gift-giving, though sometimes attaining a position of an institutionalised reciprocal transfer of goods, does not qualify as exchange transaction *par excellence*.[35]

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[30] Cuomo (2007).
[31] Howgego (1990); (1992); Duncan-Jones (1994); Wolters (1999).
[32] Harris (2006); (2008c); Howgego (2009) 288; and Ch. 6, below.
[33] *OED*.
[34] Wilson (2008), at the beginning.
[35] Polanyi (1944); (1957), who divides transfer of goods into three categories: exchange, reciprocity, and redistribution; Figueira (1984), who applies it in the context of ancient Greek trade. On gift-giving as a form of exchange, see Mauss (1925); Morris (1986), who applies it in the study of the economic history of archaic Greece.

Exchange activities are institutionalised in laws and conventions. Different societies develop different legal formations, and may construct exchange on different lines of reasoning. These could coexist within the same economic sphere, as was the case in the Roman empire, where different legal systems existed side by side, their enforceability conditioned by the identity and social status of the parties involved, rather than by geographic location.[36] Thus, for example, in Jewish law of the period exchange transactions were categorised according to the rights granted to the party which gained hold of the "object" of the transaction, ranging from a complete transfer of ownership (as in sale), to having no rights of usage whatsoever (as in the case of finding lost belongings of another).[37] In Classical Roman law, however, exchange transaction was organised based on different criteria and legal reasoning.

The vital and complex topic of Roman legal classification is beyond the scope of the present study.[38] Here suffice it to state that classical Roman jurists approached the various commercial transactions which formed exchange by focusing on the obligations (*obligationes*) it created; with the term *obligatio* holding an inherently reciprocal

[36] Touri (2007); and Ch. 1, section 1.2.3 above.

[37] In the *Mishnah*—a redaction of Jewish oral legal traditions concluded circa 220 CE—, tractate *Bava Metzia*, the first three chapters deal with persons holding property which is not their own ("*aes alienum*", to use Roman terminology), and in which they have no rights whatsoever; starting with finding a loss of another (*Bava Metzia* 1-2), and moving to depositaries (*Bava Metzia* 3; on which see Ch. 8, below). The tractate's following chapters are concerned with persons who have come to hold property of another in ways which permit them (certain) rights in the said property. These include: sale, where full transfer of ownership occurs (*Bava Metzia* 4); loan for consumption, which gives right of usage (ל.ו.ת; *Bava Metzia* 5), and may be paralleled with the Roman *mutuum*; a depositee who safeguards a deposit for payment (*Somer Sakhar*, שומר שכר; *Bava Metzia* 6), which Daube (1944) 380-1, parallels with the so-called *locatio conductio operarum* (on the latter, see Ch. 5, p. 135, below); loan for use (ש.א.ל; *Bava Metzia* 8), which can be paralleled with *commodatum*; and rent and hire (ש.כ.ר; *Bava Metzia* 7, 9-10), paralleled with the Roman *locatio conductio*. Also, see Daube (1944) esp. 379-83, 405-7; Henshke (1997) 28.

[38] The topic has received a great deal of scholarly attention. Here I refer only to Zimmermann (1996); McGinn (2012); both offer extensive bibliographies.

meaning of both duties and rights.[39] Reciprocity—stressed above as an essential component of exchange—is embedded also in the Roman legal notions of *conventio* (agreement) and *contractus* (contract),[40] as well as in the corresponding Greek concept of *synallagma* (*συνάλλαγμα*).[41] Yet, it was not contracts which stood at the centre of Roman legal categorisation; rather, Roman jurists constructed their discussions around obligations and the different ways by which these arose.[42] Thus, for example, the first-century BCE jurist Labeo, cited by Ulpian, lists four such methods: *re* and *verbis*, both falling under his category of 'things that *agantur*'; *consensu*, which falls under his 'things that *contrahantur*', i.e. "obligations characterised by reciprocity" (*ultro citroque obligationem*); and the somewhat vague *sine verbis factam*, referring to 'things that *gerantur*'.[43] Gaius, too, constructs his discussion around methods by which obligations are created, offering an initial twofold division into *obligationes ex contractu*, and *ex delicto* (i.e. from an offence);[44] with the former further subdivided into four[45] procedural methods by which obligations can legally be contracted: *re*, *verbis*, *litteris*,[46] and *consensu*.[47] Dividing exchange according to types of reciprocal obligations guids also the

[39] Watson (1965), in general; Zimmermann (1996) 1; Fiori (2012).
[40] Most recently, Pelloso (2007); Dalla Massara (2011); McGinn (2012); Fiori (2012) 48-56.
[41] Gallo (1992), *non vidi*; Pelloso (2007); Fiori (2012).
[42] Fiori (2012) 61.
[43] Ulp. *Dig*. 50.16.19 (11 *ad ed*.): '*Labeo libro primo praetoris urbani definit, quod quaedam "agantur", quaedam "gerantur", quaedam "contrahantur": et actum quidem generale verbum esse, sive verbis sive re quid agatur, ut in stipulatione vel numeratione: contractum autem ultro citroque obligationem, quod Graeci* sunallagma *vocant, veluti emptionem venditionem, locationem conductionem, societatem: gestum rem significare sine verbis factam*'. See Fiori (2012) 45-8, with reference to earlier publications, and p. 67 for English translation.
[44] Gai. *Inst*. 3.88: '*Nunc transeamus ad obligationes, quarum summa diuisio in duas species diducitur: omnis enim obligatio uel ex contractu nascitur uel ex delicto*'. See Zimmermann (1996) 10-13, and 14-18, for Justinian's development of the system.
[45] On the centrality of the number four in Justinian's subdivisions, see Zimmermann (1996) 14-15.
[46] On the contract *litteris*, see Watson (1965) 18-39.
[47] Gai. *Inst*. 3.89: '*Et prius uideamus de his, quae ex contractu nascuntur. harum autem quattuor genera sunt: aut enim re contrahitur obligatio aut uerbis aut litteris aut consensu*'.

third-century jurist Paul, who builds his description of exchange on a general fourfold[48] classification: 'Either I give to you in order that you give, or I give that you do, or I do that you give, or I do that you do';[49] which is then further subdivided following the manner by which obligations in each of the categories can be created.[50]

Two notions, namely *bona fide* and *consensus*, are especially fundamental to Roman legal institutionalisation of exchange, hence deserve some clarification.[51] The development of *bona fide* into a legal institution, in addition to it being a moral one, dates back to the early Republic.[52] It was probably during the second half of the second century BCE that the *bonae fidei iudicia* emerged and were incorporated into the praetorian law (what is known as the *ius honorarium*).[53] Its significance was in setting new flexible guidelines by which judges can give rulings. In *bonae fidei iudicia* judges were instructed to resolve disputes in accordance with the principle of 'good faith'; i.e. to regulate justice in accordance with what a *bonus vir* may deem as right and fair, thereby subordinating law to custom.[54] Differences between ancient catalogues of *bonae fidei iudicia* shed light

[48] See n. 45 above.

[49] Paul. *Dig*. 19.5.5.pr. (5 *quaest*.): '*…In hac quaestione totius ob rem dati tractatus inspici potest. Qui in his competit speciebus: aut enim do tibi ut des, aut do ut facias, aut facio ut des, aut facio ut facias…*'. For a recent account, see Kremer (2000), *non vidi*. For discussion of Paul. *Dig*. 19.5.5 (5 *quaest*.), see Ch. 5, pp. 161-3, below.

[50] Kermer (2000), *non vidi*; Zhang (2007); Pelloso (2011).

[51] Recently *bona fide* has received tremendous scholarly attention; Schermaier (2000); Talamanca (2003); Fiori (2006); (2008); (2011), with reference to earlier bibliography.

[52] On morality, *fides*, and *bona fide*, see Schermaier (2000) 77-83; Fiori (2008); (2011) 101-6.

[53] De Zulueta (1957) 5-6, who argues that it was part of a 'general movement which led to the reception of principles and institutes of the *ius gentium* into the *ius civile*'; Wieacker (1963); Watson (1964); Schermaier (2000) esp. 71-4. But, see Lombardi (1961) 179-81, who dates the process to the end of the Republic; Fiori (2011) 112-39, who dates the end of this process as late as the first century CE.

[54] Schermaier (2000) 63-6, 72-6; Fiori (2011) 208-9, 216-9. For a general overview of *bona fide* in the *longue durée*, see Fiori (2006) 127-36.

on the historical process by which contractual relationships of exchange were included under this category.[55]

From its earliest stages *bonae fidei iudicia* included a more concise group of *obligationes consensu contractae*, i.e. obligations contracted by consent;[56] namely, sale and purchase (*emptio venditio*[57]), lease and hire (*locatio conductio*[58]), partnership (*societas*[59]), and mandate (*mandatum*[60]). The development of these four consensual contracts during the third and second centuries BCE established key definitions for Roman economic relations,[61] and 'provided the legal framework for much of Roman commerce'.[62] It based interaction on a notion of 'good faith' (*bona fide*); it established mutual agreement as the basis for creating obligations between parties;[63] it freed the contracting of transactions from rigid formulae,[64] enabling transactions to be concluded also between absent persons;[65] and it detached the moment of contracting a transaction from that of transferring the objects which it concerned, with the potential of enabling wider use of credit. All of these have tremendous implications for the institutionalised environment of economic interaction, whether or not the latter was conducted in money. In the next two chapters discussion focuses on the role of money within the context of two of these consensual contracts most vital for conducting exchange, namely sale (*emptio venditio*) and lease/ hire (*locatio conductio*).

[55] Cic. *Off*. 3.70; Gai. *Inst*. 4.62; Just. *Inst*. 4.6.28. And, see Schermaier (2000) 66-7; Fiori (2011) 108-9.
[56] Gai. *Inst*. 3.135 (=*Dig*. 44.7.2.pr.).
[57] The starting point for which continues to be, De Zulueta (1957); Daube (1959). And, see Ch. 4, below.
[58] For recent accounts, see Fiori (1999); Du Plessis (2012a). And, see Ch. 5, below.
[59] For recent account, see Meissel (2004).
[60] Arangio-Ruiz (1949); Watson (1961); both remain indispensable.
[61] On consensual contracts, see Cancelli (1963); Watson (1964).
[62] Du Plessis (2012a) 1.
[63] Gai. *Dig*. 44.7.2.1 (3 *inst*.).
[64] Gai. *Inst*. 3.136 (=*Dig*. 44.7.2.1).
[65] Gai. *Inst*. 3.136 (=*Dig*. 44.7.2.2).

Lastly, a general comment ought to be made regarding the enforceability of contracts in the Roman world. While enforceable contracts no doubt facilitate exchange, high levels of enforceability—often assumed by economic theory—are not essential for the existence of exchange.[66] It is reasonable to assume that levels of enforceability in the Roman world were lower than the ones one may axpect to find in modern Western countries. Yet, the involvement of the Roman ruling authorities in enforcing legal arrangements—that is, the existence of a legal system, with its jurisprudential procedures, courts, judges, and petitions to officials, governors, and emperors—indicates that the Roman regime certainly contributed to the enforceability of commercial agreements, whether or not these took the legal form of a contract. To official legal enforcement of contracts should be added the social pressure for keeping one's word. This was embodied in the form of *infamia*, both a legal term and a cultural institution that inflicted shame (as well as legal restrictions) on persons who had acted dishonestly in conducting business; i.e. *infamia* could be a consequence of unpaid debts or bankryptcy, or be inflicted on persons whose behaviour appeared as deliberate violation of the confidence expected in contractual relations, such as *depositum*, *mandatum*, tutelage, or partmership (*societas*).[67] Both *infamia* and the state's jurisprudential mechanisms for keeping the law had the outcome of better defining property rights, thereby reducing uncertainties and potentially lowering transaction costs.[68] In this respect law was not merely the privilege of the elite;

[66] Wilson (2008). Low level of enforceability increases uncertainty, and encourages parties to aim for simultaneous reciprocal exchange, rather than for long-lasting or continuous transactions.

[67] On *infamia*, see *Dig*. 3.2, titled *De his qui notantur infamia*; Greenidge (1894); Berger (1953) 500; Fleckner (2010) 341-2, on *infamia* of members of a partnership (*socii*).

[68] Lo Cascio (2006) 218-9, 222; Frier and Kehoe (2007) 128; Harris (2007) 519; Kehoe (2012). However, the casuistic nature of Roman law, and tendencies towards sophistication, had often had the effect of making economic interaction—communicated via contractual formulae—more complicated, forcing one or both parties to turn to the aid of professional middlemen—e.g. scribes, lawyers, official recorders of

petitions to the emperor's *a libellis*, as well as to officials of lower rank, both imperial and local, had been sent by 'people all across the empire representing a variety of social statuses', thereby indicating, at least to some degree, an 'effectiveness of the Romans in establishing authoritative legal institutions to resolve disputes'.[69]

contracts, coin-assayers, or bankers—in order to protect their interest; thereby accumulating additional costs to the transaction.

[69] Kehoe (2012) 190-3, with further bibliography in n. 3, citations taken from pp. 190, 191, respectively.

Chapter 4: *Emptio venditio*

4.1. Introduction

The first economic interaction involving money which comes to the modern mind is that of buying and selling. This to a great extent is due to developments in the Roman contract of sale (*emptio venditio*) which took place during the first two centuries CE. At the end of this process *emptio venditio* had emerged as a contract in which one party offered something for sale, while the other provided remuneration in the form of a purchase-price (*pretium*), defined in monetary terms (*in numerata pecunia*).

The issue of *pretium in numerata pecunia* stood at the centre of one of the most celebrated controversies between the two schools of Classical Roman Law: the Sabinians, also known as the Cassians, and the Proculians. The debate was not merely theoretical; a requirement that a purchase-price be defined in money has crucial implications for sale transactions as well as the use of money, hence also the attitudes towards it. Thus, this school controversy reveals the subtext, the hidden suppositions, which dictated the attitudes of Roman jurists towards money; and its outcome—i.e. the view which eventually prevailed—influenced the way in which sale transactions took place, hence set the tone for the attitudes of the general public towards money. Therefore, this controversy—its nature, how it came to be formed, and later resolved—is of great relevance to the present topic of study.

In what follows I briefly list the components of the Roman contract of sale; then describe the controversy, and the opinions in the scholarship to explain it, in particular the reasons why the pecuniary requirement was formulated to begin with; and, finally, the

implications of making it obligatory. However, first a number of preliminary notes ought to be made about the schools themselves, the Sabinians and the Proculians.[1]

4.2. The Schools

Most of our information about the two legal schools derives from Gaius' *Institutiones*, which mentions two *scholae*;[2] and from a long excerpt of Sextus Pomponius' *Enchiridion*, composed probably under the emperor Hadrian,[3] and preserved in Justinian's *Digest*,[4] which mentions two *sectae*.[5] The representatives of the two schools, we are informed, differed on a number of issues, which came to be known as the school controversies. Gaius discusses twenty-two such controversies,[6] and some are mentioned also in Justinian's *Corpus Iuris Civilis*; mainly in the *Digest*, to a lesser extent in Justinian's *Institutiones*, with the *Codex* providing an important source for knowing when and how some of the controversies were eventually decided.[7]

According to Pomponius, the schools originated from a difference of opinion between the two prominent jurists of the Augustan era, C. Ateius Capito and M. Antistius Labeo.[8] Yet, it was later jurists—Massurius Sabinus, a pupil of Capito, and Proculus, a

[1] The existence of the two legal schools has received vast scholarly attention; e.g. Schanz (1884); Sokolowski (1896); Baviera (1898); Betti (1915); Wenger (1953) 498-504; De Zulueta (1957) 16-8; Honoré (1962) 18-45; Jolowicz and Nicholas (1972) 378-9; Stein (1972); (1977); Kodrebski (1976); Liebs (1976); Falchi (1981); Bürge (1982) 142f.; Behrends (1983-1984); Scacchetti (1984); Tellegen (1988); Zimmermann (1996) 250-2; Stolfi (1997); Leesen (2008); (2010).
[2] E.g. Gai. *Inst*. 2.15; 4.79.
[3] Lenel (1889) vol. 2, 1246.
[4] Pompon. *Dig*. 1.2.2 (*enchir.*).
[5] Pompon. *Dig*. 1.2.2.47 (*enchir.*).
[6] Gai. *Inst*. 1.196; 2.15; 2.78; 2.79; 2.123; 2.195; 2.200; 2.216-222; 2.231; 2.244; 3.85-87; 3.98; 3.103; 3.133; 3.140; 3.141; 3.161; 3.167a; 3.168; 3.177-178; 4.78; 4.79. The controversies are systematically dealt with and analyses in Falchi (1981); Leesen (2010), with a summarised list of the relevant references to Gaius' *Institutiones* in p. 42.
[7] Leesen (2010) 4.
[8] Pompon. *Dig*. 1.2.2.47; 52 (*enchir.*); Tac. *Ann*. 3.75, who also mentions the two Augustan jurists.

pupil of a pupil of Labeo—who gave the schools their names;[9] supporting the claim that a clear division into *scholae* was established only after the time of Augustus. Pomponius also informs us that the Sabinians were first called the *Cassiana schola*, named after the jurist C. Cassius Longinus,[10] and this name also appears in a letter of Pliny the Younger to his friend Geminius.[11] On the basis of this information Honoré concluded that the schools originated with Cassius and Proculus, probably in the second half of the first century CE, and only later, in the quest for prestige, were traced back to earlier, more distinguished founders.[12]

The division of Roman jurists into two schools, which began under the Julio-Claudians, was still very much alive in the mid-second century.[13] For this period we have Gaius' self-testimony for being a Sabinian,[14] and the contemporaneous self-testimony of Venuleius Saturninus for being a Proculian.[15] It is a matter of debate whether or not the celebrated Antoninian jurist Sextus Pomponius belonged to one of the two schools;[16] while some scholars hold Pomponius to have been an adherent of the Sabinians,[17] others

[9] Pompon. *Dig*. 1.2.2.48; 52 (*enchir.*).
[10] Pompon. *Dig*. 1.2.2.52 (*enchir.*).
[11] Plin. *Ep*. 7.24.8; on which, see Tellegen (1988).
[12] Honoré (1962) 18-39, esp. 19-21.
[13] Leesen (2010) 2-4. Contra Honoré (1962) 35-6, who argues that the schools ceased to exist already in the 160s; Tellegen (1988), who argues that it is not clear whether the schools continued to exist after Hadrian abolished the position of the *ius publice respondendi ex auctoritate principis*, on which, see pp. 100-101, below.
[14] E.g. Gai. *Inst.* 3.141. Although Gaius affiliates himself with the Sabinians, he uses not this name, nor that of the Cassians, but rather talks of *nostri auctores* or *nostri praeceptores*, as opposed to the *diversa schola*; Honoré (1962) 19, who lists the relevant references in Gaius' *Institutiones*.
[15] Ven. *Dig*. 45.1.138.pr. (4 *stip*.).
[16] Stolfi (1997) 7-16; Leesen (2010) 4, n. 3. The view adopted here is that the evidence seems not to allow for a definite conclusion on the matter.
[17] Thomas (1959) 167-70, who points out that in Pompon. *Dig*. 40.7.29.1 (18 *ad quint. muc*.), Pomponius supports Aristo's view against that of Celsus and Labeo; Behrends (1983-1984) 204; Leesen (2010) 3, n. 3, with reference to further bibliography.

argue that he sided with the Proculians;[18] or, that throughout his career he was affiliated with both.[19] Opinions also differ on the question of when the schools ceased to exist. While some scholars argue that the schools were of little importance already by the second half of the second century,[20] most scholars agree that the schools did not disappear before the end of the second century, and some even argue that they disappeared perhaps only during the course of the third,[21] with some of the controversies decided as late as the sixth century by the emperor Justinian.[22]

The existence of the two legal schools is generally undisputed; yet, the reasons for their appearance, as well as the nature of the division between them, remain open to interpretation. In the scholarship a dogmatic approach often has been adopted in analysing the school controversies, looking for general principle(s) that would explain the existence of the schools following some consistent internal criterion.[23] It has been suggested that the division into Sabinians and Proculians was based on a difference in philosophical inclination, with the adherents of the former school following the Stoic tradition, and those of the latter school that of the Peripatetics.[24] Another approach offered by Romanists regards the schools as originating from a difference in legal

[18] Baviera (1898) 27-30, cited in Leesen (2010) 3, n. 3.
[19] Honoré (1962) 21-6.
[20] Honoré (1962) 35-6; Tellegen (1988), who sees the schools as a direct outcome of the jurisprudential power of the *ius respondendi*, and believes that this institution was abolished already by Hadrian.
[21] Falchi (1981); Leesen (2010) 1-4, 25.
[22] Leesen (2010) 327, n. 48, who cites six such controversies: *CJ* 5.60.3 (529); 4.38.15.1-3 (530); 4.27.2(3).2 (530); Just. *Inst*. 1.22.pr.; 2.1.25; 2.20.34; 3.19.4; 3.23.pr.-1; 3.17.3; 3.28.3.
[23] Lesen (2010) 312-6. In what follows, I rely on the summary offered in Lesen (2010) 5-20.
[24] Sokolowski (1896); more recently, see Nelson and Manthe (1999) 525-31, who suggested that while the Sabinians followed the Stoics, the Proculians were influenced by Aristotle; Fiori (1999) 200-1, who ascribes to the Sabinians a Stoic philosophical stand, while the Proculians are perceived as advocating a doctrine of *specificatio*. Contra a philosophical explanation for the division into schools, see Stein (1972) 8-9; Leesen (2010) 5-7; Vander Waerdt (1990), who argues that although many Roman jurists were highly educated in philosophy, especially in Stoics, this dictated neither their legal doctrine, nor Roman jurisprudence at large.

methodology, i.e. as having different approaches to law and its interpretation. Thus, the Proculians have been labelled "analogists" and the Sabinians "anomalists", following the subdivision of Greek grammarians. According to this view, the Proculians believed that law, similar to language, is governed by general principles; hence in problems of *interpretatio verborum* they tended to prefer strict literary interpretations. The Sabinians, on the other hand, perceived law as a product of usage and practice; hence tended to favour the subjective intentions of the parties over methodological formalities.[25] Other Romanists have pursued a somewhat more socially-oriented explanation for the existence of the schools, seeing the opposition between them in terms of progressive vs. conservative.[26] However, while some scholars argue that the Sabinians were progressive and the Proculians conservative,[27] others argue that it was the other way around.[28]

A somewhat different line of explanation—which is more socially-oriented than the philosophical or methodological explanations, yet is based on an inward-looking perception of the legal profession—sees the existence of the schools as originating from traditions of law teaching institutions.[29] According to this approach, there was no fundamental difference between the Sabinians and the Proculians. Rather, the schools were created due to the introduction of the institution of the *ius respondendi*,[30] granted by

[25] Schanz (1884); Betti (1915) esp. 26-7; Stein (1972) esp. 19-26; (1977); Liebs (1976) 275-82; Scacchetti (1984) esp. 386-390, 401. Contra Leesen (2010) 8-9, who claims that 'the majority of the controvercies did not concern the interpretation of a text, but of unwritten law'.

[26] Leesen (2010) 7-11.

[27] Karlowa (1885) 661-6; Falchi (1981) esp. 252-4.

[28] Voigt (1889) 222-41; Honoré (1962) 35-9; Kodrebski (1976) 190-6.

[29] Baviera (1898); Honoré (1962) 18-45; Jolowicz and Nicholas (1972) 379-80. This approach is summarised in Leesen (2010) 14-16. Also, see Honoré (1962) 35-9, who argues that the separation into schools was enhanced by political inclinations; though, a strictly political explanation for the emergence of the schools is regarded as generally outdated; Jolowicz and Nicholas (1972) 379; Leesen (2010) 14.

[30] The terminology in full is *ius publice respondendi ex auctoritate principis*; translated in Leesen (2010) 25, n. 61, as 'to respond under the public authority of the emperor'. The two main texts on this position

the emperor, which encouraged students of law to gather publicly around certain distinguished jurists, with the schools emerging as a result of personal rivalry and competition for prestige.

This line of interpretation—which stresses the role of the *ius respondendi* in the emergence of the schools—has recently been taken one step further by Tessa Leesen, who claims that the schools were created owing to practical aspects of Roman jurisprudence.[31] Both Sabinians and Proculians, she argues, were Roman jurists and therefore 'were first and foremost legal practitioners whose main activity was to give advice (*responsa*) in court'.[32] 'Since the heads of the schools were vested with the *ius publice respondendi ex auctoritate principis*, their *responsa* carried special authority, namely, that of the emperor',[33] making it binding on the judge. Thus, when opposing parties in a trail had each approached the head of a different school for advice, a school controversy arose.[34] According to Leesen, the controversies cannot 'be explained in terms of the schools adhering to opposed legal conceptions',[35] but rather 'problems underlying the controversies arose in legal practice',[36] since each jurist was expected to construct argumentation in support of the party which approached him for advice.[37]

As stated in the introduction above, within the debate on the relation between law and society, the present study follows the approach which sees Roman law as integrally

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are, Pompon. *Dig*. 1.2.2.48-50 (*enchir*.); Gai. *Inst*. 1.7. On the *ius respondendi*, see Tellegen (1988); Frier (1996) 962-3; Tuori (2004), with reference to earlier bibliography; Ibbetson (2005) 185-6, with some general comments; Leesen (2010) 22-9, who offers a summary of the arguments in Tellegen (1988).

[31] Leesen (2010) 20-9.

[32] *Idem* 1.

[33] *Idem* 328.

[34] *Idem* 22.

[35] *Idem* 312.

[36] *Idem* 328.

[37] *Idem* 32.

connected with society, and as indicative of actual practice. The casuistic nature of Roman legal sources is seen as supportive of the view that Roman jurisprudence itself was case driven. That is, more than being an inward-looking internally consistent system, Roman law was a 'case law', deeply rooted in real situations.[38] Therefore, it should not come as a surprise that the present study favours more socially oriented interpretations for the existence of the two legal schools. It sees Roman jurists primarily as legal practitioners,[39] who were bound to elite social codes of behaviour that encouraged competition on the basis of prestige. It assumes that juristic disputes were more often than not connected with, or based on, real legal problems; hence, stem from actual cases, either directly or by way of stimulating discussion on potential situations.

4.3. Components of the Roman Contract of Sale

Let us turn to the Roman contract of sale, *emptio venditio*. By the second century BCE *emptio venditio* had emerged as a consensual contract; that is, a contract based on the *consensus* of both seller and buyer, 'enforceable on the ground of mere agreement'.[40] It created bilateral obligations between the parties, who were—in order for a sale to be complete—reciprocally liable to one another (*alter alteri obligatur*).[41] Being a consensual contract, Roman sale was conditioned by neither conveyance,[42] nor *arra*, i.e. the transfer

[38] Though not every case reported by jurists necessarily was identical with a real situation.
[39] Leesen (2010) 20-9, 328.
[40] Gai. *Inst*. 3.135; Ulp. *Dig*. 18.1.2.1 (1 *ad sab*.); 9.1 (28 *ad sab*.); Paul. *Dig*. 19.4.1.2 (32 *ad ed*.); De Zulueta (1957) 7, 20-2; Watson (1964); Kaser (1971) 547-8; Zimmermann (1996) 230, 239.
[41] Gai. *Inst*. 3.137; Justin. *Inst*. 3.22.3. Unlike *stipulatio* or *expensilatio*, where obligations were imposed mainly on one of the parties; De Zulueta (1957) 7-8.
[42] Ulp. *Dig*. 18.1.2.1 (1 *ad sab*.); De Zulueta (1957) 2; Kaser (1971) 547-8; Zimmermann (1996) 230-1.

of earnest-money.[43] This meant detaching the moment of concluding a sale from that of the delivery, potentially enabling a widespread emergence of sale on credit.[44] The institutional implications which this detachment had on Roman economic activity can hardly be overestimated. For the purpose of the present study what is important is that it established credit as an integral component of Roman economic environment.[45] Another feature of the Roman contract of sale, which no doubt facilitated economic activity, was its independence from any compulsory formulae, either orally or in writing;[46] thereby allowing sale to be conducted at a distance without the physical presence of the parties involved.[47]

In order for a Roman contract of sale to be valid, the parties had to agree on two issues: the thing sold, i.e. *merx*; and its price, i.e. *pretium*. The former, *merx*, could be 'anything which one may have, possess, or sue for',[48] both corporeal (e.g. land, chattels, slaves, or objects), and incorporeal (e.g. rights, claims). This included sale of inheritance, even before the latter was received by the vendor (sale of *spes hereditiae*);[49] and sale of

[43] Gai. *Inst*. 3.139. Unlike the Greek law of sale; Pringsheim (1950) 333-7. On the Roman novelty of consensual sale compared to other ancient sale contracts—namely, being enforceable on the basis of mere agreement, rather than on that of real actions such as transfer of objects, given as payment or security for future payment—, see Pringsheim (1950) 87-92. On the origins of consensual sale, see Watson (1964).

[44] Pompon. *Dig*. 18.1.19 (31 *ad quint. muc*.); Kaser (1971) 545-8; Jördens (1993). Unlike Greek law of sale; Pringsheim (1950); Cohen (2005); Maffi (2005).

[45] Pompon. *Dig*. 18.1.19 (31 *ad quint. muc.*), who states that sale on credit was a valid sale; also, see Harris (2006) 15.

[46] Gai. *Inst*. 3.136; Just. *Inst*. 3.22.1-2.

[47] Gai. *Inst*. 3.136; *Dig*. 44.7.2.2 (3 *inst*.); Paul. *Dig*. 18.1.1.2 (33 *ad ed*.); De Zulueta (1957) 3-7; Zimmermann (1996) 237-9.

[48] Paul. *Dig*. 18.1.34.1 (33 *ad ed*.): '*Omnium rerum, quas quis habere vel possidere vel persequi potest, venditio recte fit*'.

[49] Javol. *Dig*. 18.4.8; 10 (2 *ex plaut*.); Ulp. *Dig*. 18.4.11 (32 *ad ed*.). This could take place only after the testator had passed away, as can be concluded from Papin. *Dig*. 39.5.29.2 (10 *respon*.), who speaks of the donation of a future inheritance. Also, see Kaser (1971) 548-9; Zimmermann (1996) 248-9.

debts or other conditional obligations,[50] which supports arguments in favour of the significance of Roman credit money.[51] Whether *merx* was corporeal or incorporeal, it had to exist; that is, it had to be a thing which one could perceive,[52] including *rei futurae*, 'future possessions', both *rei speratae*, 'expected things', such as offspring or produce,[53] and *rei spei*, 'things hoped for', such as future earnings whose acquisition involved an element of chance.[54] Technically, a sale had to be of a specific good.[55] However, generic goods could also be sold if identified as certain mass;[56] alternatively, they could be sold by using a legal device of two stipulations.[57]

The second component to be agreed within the contract of sale itself was the purchase-price, *pretium*.[58] Failing to reach an agreement on a price rendered the contract void.[59] Altering the original price agreed upon via a subsequent agreement, meant diminishing the first contract and creating a new one.[60] As a principle, the purchase-price

[50] Paul. *Dig*. 18.4.6 (5 *quaest*.); Ulp. *Dig*. 18.4.17 (43 *ad ed*.); Julian. *Dig*. 18.4.19 (25 *dig*.).
[51] On which, see Harris (2006); (2008c); Hollander (2007); and Ch. 6, below.
[52] Pompon. *Dig*. 18.1.8.pr. (9 *ad sab*.): '*Nec emptio nec venditio sine re quae veneat potest intellegi*'.
[53] Pompon. *Dig*. 18.1.8.pr. (9 *ad sab*.). Sale of future agricultural yield is attested already in Cato *Agr*. 146, who mentions sale of olives on trees; 147, of grapes on vines; 150, of the increase of a flock. Also, see Ernst (1997) 274-5. On 'Sale on Delivery', see Ch. 6, pp. 185-6, below.
[54] Pompon. *Dig*. 18.1.8.1 (9 *ad sab*.), who considers the gains from both the catching of fish or birds, and the collection of largesse (*missilium*)—usually coinage thrown to the public by an emperor or his representatives—as possible future property, which once obtained may be sold. On the difference between *rei speratae* and *rei spei*, see De Zulueta (1957) 14; Daube (1959) 12-4; Kaser (1971) 549; Paling (1973), though one may doubt whether his inclusion within *emptio spei* also *emptio rei speratae* finds reassurance in the evidence; Zimmermann (1996) 245-9.
[55] Kaser (1971) 548.
[56] Gai. *Dig*. 18.1.35.5; 7 (10 *ad ed. prov*.); Paul. *Dig*. 18.6.5 (5 *ad sab*.).
[57] De Zulueta (1957) 16; Kaser (1971) 548, n. 31; Zimmermann (1996) 236-40; Ernst (1997) 276-7; Johnston (1999) 80-2. Adding a clause which sets a penalty to be paid in the case of non-delivery could also facilitate generic sale; Paul. *Dig*. 19.1.47 (6 *respon*.).
[58] Gai. *Inst*. 3.139; Papin. *Dig*. 18.1.72.pr. (10 *quaest*.); Ulp. *Dig*. 18.1.9.pr. (28 *ad sab*.); 2.1 (1 *ad sab*.), and see Watson (1981) 188-9, for the possibility that this excerpt was interpolated at its end; Varro *LL* 5.177, who in the first century BCE defined *pretium* as a thing fixed for the purpose of purchase. For the nature of price in Greek law of sale, see Pringsheim (1950) 190-205.
[59] Ulp. *Dig*. 18.1.37 (3 *disput*.).
[60] Papin. (Paul.) *Dig*. 18.1.72.pr. (10 *quaest*.) *ad finem*.

could be whatever the parties agreed on.[61] However, several restrictions were imposed on it. First, it had to be *verum*, i.e. real and not symbolic (more than *nummus unus*);[62] otherwise the transaction would be a *donatio* rather than a sale.[63] Second, it had to be *certum*, i.e. definite;[64] though a contract need not necessarily provide a figure, or a final figure for that matter,[65] as long as it described the conditions leading to a definite price.[66] Thus, it could be that at the time of concluding the contract one or both parties did not (yet) know the purchase-price; for example, when the agreed price was 'for what you paid for it', or 'for what I have in my cash box'.[67] In such cases, although there was ignorance of the amount, the price itself was not uncertain.[68] The purchase-price could not be left to a future decision of the purchaser alone;[69] however, the question whether or not it could be left to that of a third party was a matter of dispute between Roman jurists.[70] Some scholars describe this dispute in terms of a school controversy;[71] others do

[61] Ulp. (Pompon.) *Dig*. 4.4.16.4 (11 *ad ed*.); Paul. *Dig*. 19.2.22.3 (34 *ad ed*.).
[62] Ulp. *Dig*. 19.2.46 (69 *ad ed*.), in the case of *locatio conductio*.
[63] Paul. *Dig*. 19.2.20.1 (34 *ad ed*.); Ulp. *Dig*. 18.1.36 (43 *ad ed*.); but, see Daube (1953) 192-9, esp. 194-5, for a reconstruction of the original context in which this statement appeared, and 198, stating that 'the classics had taken it for granted that a man "selling" an object for no price was not selling'.
[64] Gai. *Inst*. 3.140; Paul. *Dig*. 19.2.20.pr. (34 *ad ed*.); Ulp. *Dig*. 18.1.37 (3 *disput*.), on the invalidity of a sale due to a lacking price.
[65] Ulp. *Dig*. 18.1.7.2 (28 *ad sab*.), who provides a definite price which could be increased under certain conditions; similarly, 19.1.13.24 (32 *ad ed*.); also, see Daube (1959) 27.
[66] Daube (1959); Zimmermann (1996) 253-4.
[67] Ulp. *Dig*. 18.1.7.1 (28 *ad sab*.): '*Huiusmodi emptio "quanti tu eum emisti", "quantum pretii in arca habeo", valet*'.
[68] Ulp. *Dig*. 18.1.7.1 (28 *ad sab*.); De Zulueta (1957) 18-9; Daube (1959) 9-17; Zimmermann (1996) 254-5; Leesen (2010) 207.
[69] Gai. *Dig*. 18.1.35.1. (10 *ad ed. prov*.); Zimmermann (1996) 254-5; Leesen (2010) 207; but, see Daube (1959) 21; Nelson and Manthe (1999) 261-2, who hold that *imperfectum* here stands for conditional sale.
[70] Gai. *Inst*. 3.140: '*Pretium autem certum esse debet. nam alioquin si ita inter nos conuenerit, ut quanti Titius rem aestimauerit, tanti sit empta, Labeo negauit ullam uim hoc negotium habere; cuius opinionem Cassius probat. Ofilius et eam emptionem et uenditionem esse putauit; cuius opinionem Proculus secutus est*'. ['However, the price must be certain. For otherwise if we thus have agreed that the thing is bought for as much as Titus will estimate, Labeo denied that this transaction had any effect whatsoever. Cassius approves his view. Ofilius thought that even this was emptio venditio and Proculus has followed his opinion'. Translation is that of Leesen (2010) 205].

not consider it as such, since the difference of opinion did not follow regular division into schools.[72] The dispute eventually was settled in the sixth century by the emperor Justinian, who labelled a contract of sale where the purchase-price was to be determined by a third party as conditional sale, the condition being that the said third person would indeed set a price.[73]

In later periods another requirement was added, according to which a price should also be *iustum*, i.e. 'just'. This is known in the scholarship as the doctrine of *laesio enormis*, literally 'enormous loss'.[74] It originally refers to two imperial rescripts of Diocletian,[75] which allow a seller of land to rescind the sale if the purchase-price is less than half that of a 'just price', or, alternatively, give the buyer the option of paying the difference. The question whether a 'just price' should be an absolute figure applicable in every circumstance, or, alternatively, be whatever the parties perceive as 'just',[76] does not

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[71] Voigt (1899) 240-1; Liebs (1976) 264; Fiori (1999) 244-9, who holds Ofilius and Proculius to be representatives of the Proculian view, according to which payment can be determined by a third party, while Labeo and Cassius represent the Sabinian stance, which presumably preferred applying in such cases the *actio in factum*.

[72] According to Gai. *Inst*. 3.140, Cassius (=C. Cassius Longinus), a Sabinian, had supported the view of Labeo, a Proculian; while Proculus himself opposed Labeo, preferring the view of the first-century BCE jurist Ofilius, a teacher of Capito (=C. Ateius Capito), whose name is given by Pompon. *Dig*. 1.2.2.47-52 (*enchir.*), as the founder of the Sabinian school. Also, see Baviera (1898), who does not list Gai. *Inst*. 3.140, among the school controversies; neither does Falchi (1981) 263-7; Leesen (2010) 205-14, who, although not holding the dispute to have been a school controversy, nevertheless discusses it at length.

[73] *CJ* 4.38.15.1-2 (Just., 530); Just. *Inst*. 3.23.pr.-1; Daube (1959) 9-12, 20-1; Johnston (1989) 156-7; Zimmermann (1996) 254-5; Fiori (1999) 242-4; Leesen (2010) 205-14.

[74] On *laesio enormis*, see De Zulueta (1957) 19-20; Sperber (1973); Watson (1981); (1994) 124-5; Visky (1983) 24-66; Sirks (1985); (1992); (1995); (2007); Klami (1987); Mayer-Maly (1991); Zimmermann (1996) 255-70; Pennitz (2002); Harke (2005); Westbrook (2008); Platschek (2011).

[75] *CJ* 4.44.2 (Diocl., 285); 8 (Diocl., 293); contra, *CTh* 3.1.1 (319); 4 (383); 7 (396).

[76] Ulp. (Pompon.) *Dig*. 4.4.16.4 (11 *ad ed*.); Paul. *Dig*. 19.2.22.3 (34 *ad ed*.); both allow a purchase-price to be whatever the parties agreed. In the first century CE Seneca (*Ben*. 6.15.3-5) argued that a 'just' price is that which the parties have agreed, and not an objective value depended on the qualities of the thing sold. For two different interpretations of this text, see Pennitz (2002) 578-81; Sirks (2007) 463-4. The *lex Irnitana* (91 CE), Ch. 75, bans any speculation or activities that distort prices and make things dearer (*carius*), thereby presumably assuming that there is such a thing as an unjust, or at least unjustified, price; González (1986) 172, 193, 224. In the second century the (Sabinian) jurist Javolenus, *Dig*. 18.1.79 (5 *ex post. lab*.), argued that a commitment to contract *locatio conductio* could be part of *pretium* in *emptio*

concern us here, as it is independent of the use of money.[77] Since the doctrine of *laesio enormis*, as a general rule, emerged only after the period here under investigation,[78] attributed at the earliest to the emperor Diocletian,[79] it will not be further discussed.

The last characteristic of *pretium* to be considered is the most significant for the current research, as it concerns the pecuniary nature of *pretium*. In what follows the school controversy concerning the requirement of *pretium in numerata pecunia*, i.e. that a purchase-price be (stated?) in money, is detailed and discussed.

4.4. The *pretium in numerata pecunia* controversy

The controversy regarding the pecuniary nature of a purchase-price is known mainly from a paragraph in Gaius' *Institutiones*, and two fragments of Paul's *Ad Edictum* preserved in Justinian's *Digest*. Therefore, the three texts are cited here in full.

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venditio, if—and here is the interesting point—the seller had agreed to a lower price to begin with in order to guarantee the lease. Also, see Sirks (1995), who analyses Scaev. *Dig*. 18.5.9 (4 *dig*.), which concerns the resolution of fiscal sales, with *laesio enormis* in mind.

[77] Though money, being a unit of account, facilitates quantification by simplifying calculation of what a price ought to be.

[78] It had been suggested that the doctrine of *laesio enormis* might have been influenced by Jewish Rabbinic tradition; Jolowicz (1937), with reference to earlier bibliography; Sperber (1973); a thesis rejected by Watson (1981) 189. Recently this view was revived by Westbrook (2008), who sees the doctrine of *laesio enormis* as an eastern influence, tracing its origin back to legal traditions, widespread from the third millennium up to the third century BCE throughout the ancient Near-East, which gave the seller of landed property the right of redemption.

[79] *CJ* 4.44.2 (Diocl., 285); 8 (Diocl., 293). As to the controversy whether or not the earlier rescript was interpolated, by either Justinian's compilers or earlier jurists, see Watson (1981) 187-9, who rejects neither the possibility that the *laesio enormis* doctrine was introduced under Diocletian, nor a Justinian interpolation; but, *Idem* (1994), who argues that the substance of the rescripts is genuine, and that the doctrine was indeed a novelty of Diocletian, later to be refuted by succeeding emperors; Visky (1983) 24-66, esp. 35-44, who generally supports the authenticity of the rescript as being Diocletian's; Sirks (1985) esp. 307; (1992) esp. 44, who thinks that the text was interpolated, though before Justinian's time; Klami (1987), who supports Sirks' view that the text was interpolated, though does not exclude the possibility that this was done by Justinian's compilers; Pennitz (2002), who takes the texts of the rescripts to be genuinely Diocletian's, and to have been interpolated by neither Justinian's compilers, nor earlier jurists.

Gai. *Inst*. 3.141:

> Item pretium in numerata pecunia con||sistere debet. Nam in ceteris rebus an pretium esse possit, veluti homo aut toga aut fundus alterius rei <pretium esse possit>, valde quaeritur. Nostri praeceptores putant etiam in alia re posse consistere pretium; unde illud est, quod vulgo putant per permutationem rerum emptionem et venditionem contrahi, eamque speciem emptionis venditionisque vetustissimam esse; argumentoque utuntur Graeco poeta Homero, qui aliqua parte sic ait: ἔνθεν ἀρ οἰνίζοντο κάρη κομόωντες Ἀχαιοί, / ἄλλοι μὲν χαλκῷ, ἄλλοι δ' αἴθωνι σιδήρῳ, / ἄλλοι δὲ ρινοῖς, ἄλλοι δ' αὐτῇσι βόεσσιν, / ἄλλοι δ'ἀνδραπόδεσσι. et reliqua. Diversae scholae auctores dissentiunt aliudque esse existimant permutationem rerum, aliud emptionem et venditionem; alioquin non posse rem expediri permutatis rebus, quae videatur res venisse et quae pretii nomine data esse, sed rursus utramque rem videri et venisse et utramque pretii nomine datam esse absurdum videri. Sed ait Caelius Sabinus, si rem tibi venalem habenti, veluti fundum, [acceperim et] pretii nomine hominem forte dederim, fundum quidem videri venisse, hominem autem pretii nomine datum esse, ut fundus acciperetur.[80]

Gaius starts by stating that *pretium* should be *in numerata pecunia*. However, he then continues to report that is it questionable (*quaeritur*) whether *pretium* can consist also of other things. Thus, according to Gaius, the controversy revolved around the question whether or not a purchase-price always must be stated in monetary terms, i.e. *in numerata pecunia*, as the Proculians claimed (*diversae scholae auctores*); or, could it also be comprised of other things, such as a slave, a toga, or a piece of land, as maintained by

[80] Gai. *Inst*. 3.141: 'Likewise, the price must be in money. There is, however, much question whether the price can consist of other things, for example, whether a slave, or a toga, or a piece of land can serve as a price for another thing. Our teachers think that the price can also consist of another thing. Hence they commonly think that by bartering things a contract of sale is concluded and that this is the most ancient form of sale. And by way of argument they bring forward the Greek poet Homer, who has said somewhere: 'Thence the long-haired Achaeans procured wine, some in exchange for bronze, others in exchange for gleaming steel, some for hides and others for the live cattle, and some for slaves' and so on. The authorities of the other school disagree and hold that bartering things is one thing and that sale is another. Otherwise, when things are exchanged one cannot determine which thing is considered as having been sold and which as having been given by way of price. But, on the other hand, it seems absurd that both things are considered as sold and as given by way of price at the same time. Caelius Sabinus, however, has said that, if I have given to you, who offers a thing for sale – e.g., a piece of land – a slave by way of price, then the piece of land is considered as having been sold and the slave as having been given by way of price in order to acquire the piece of land'. Translation is that of Leesen (2008) 285-6.

the Sabinians (*nostri praeceptores*). Gaius also reports the arguments of each side. According to the Sabinians, because barter (*permutatio*) was 'the most ancient form of sale',[81] any exchange was in fact a sale.[82] That is, barter (*permutatio*) was a *species* of sale (*emptio venditio*). The Proculians, on the other hand, believed the two actions—*permutatio* and *emptio venditio*—to be separate, independent legal procedures. If barter (*permutatio*) was a *species* of sale (*emptio venditio*), argued the Proculians, it would be impossible to discern between the object of the sale (*merx*), and the price received on it (*pretium*). To answer this claim Caelius Sabinus, a prominent Sabinian jurist who operated in the second-half of the first century CE, offered a *media sententia*, according to which a purchase-price could be paid *in natura*, since it was the order of the exchange which determined which party offered the merchandise (*merx*), and which the purchase-price (*pretium*).[83]

The arguments of the Proculians are further detailed in two excerpts from Paul.

Paul. *Dig*. 18.1.1.1 (33 *ad ed*.):

> Sed an sine nummis venditio dici hodieque possit, dubitatur, veluti si ego togam dedi, ut tunicam acciperem. Sabinus et Cassius esse emptionem et venditionem putant: Nerva et Proculus permutationem, non emptionem hoc esse. Sabinus Homero teste utitur, qui exercitum Graecorum aere ferro hominibusque vinum emere refert, illis versibus: ἔνθεν ἂρ οἰνίζοντο κάρη κομόωντες Ἀχαιοί, / ἄλλοι μὲν χαλκῷ, ἄλλοι δ' αἴθωνι σιδήρῳ, / ἄλλοι δὲ ρινοῖς, ἄλλοι δ' αὐτῇσι βόεσσιν, / ἄλλοι δ'ἀνδραπόδεσσι. Sed hi versus permutationem significare videntur, non emptionem, sicuti illi: ἔνθ' αὖτε Γλαύκῳ ρονίης φρένας ἐξέλετο Ζεύς, ὃς πρς Τδείδην Διομήδεα τεύχε ἄμειβεν. Magis autem pro hac sententia illud diceretur, quod alias idem poeta dicit: πρίατο κτεάτεσσιν ἑοῖσιν. Sed verior est Nervae et Proculi sententia: nam ut aliud est vendere, aliud emere, alius emptor, alius

[81] Gai. *Inst.* 3.141: '*speciem emptionis venditionisque vetustissimam esse*'.
[82] Gai. *Inst*. 3.141; Paul. *Dig*. 19.4.2 (5 *ad plaut*.), citing the first-century jurist Titius Aristo, a Sabinian; Jolowicz and Nicholas (1972) 383-4.
[83] Leesen (2008) 288.

> venditor, sic aliud est pretium, aliud merx: quod in permutatione discerni non potest, uter emptor, uter venditor sit.[84]

From this excerpt it appears as if at the centre of the controversy stood the issue of distinguishing barter (*permutatio*) from sale (*emptio venditio*). While the Sabinians held the former to be a type of the latter, the Proculians argued that the two were separate legal actions. Both sides called on Homer in support of their opinion.[85] Yet, a reliance on Homeric verses proves neither conservatism nor progressiveness on the part of either side;[86] rather, it should be interpreted mainly as a demonstration of "good" (i.e. aristocratic) education, and should be seen as a rhetorical feature, a *topos* of *testimonium* based on *auctoritas*.[87]

At the end of this excerpt Paul sides with the Proculian view. He stresses the importance of differentiating barter from sale, since the latter requires a distinction between vendor and buyer, which can only be achieved via a clear distinction between merchandise and price, a task impossible in barter. Against the Sabinian argument that

[84] Paul. *Dig*. 18.1.1.1 (33 *ad ed*.): 'And today it is a matter for doubt whether one can talk of sale when no money passes, as when I give an outer garment to receive a tunic; Sabinus and Cassius hold such an exchange to be a sale, but Nerva and Proculus maintain that it is barter, not sale. Sabinus invokes as authority Homer who, in the lines which follow, relates that the army of the Greeks bought wine with copper, iron, and slaves: "Then the longhaired Achaeans bought themselves wine, some with copper, others with splendorous iron, ox-hides, oxen themselves, or slaves." These lines, however, suggest barter not purchase, as also do the following: "And now Jupiter, son of Saturn, so deranged the mind of Glaucus that he exchanged his armour with Diomedes, son of Tydeus." Sabinus would have found more support for his view in what this poet says elsewhere: "They bought with their possessions." Still the view of Nerva and Proculus is the sounder one; for it is one thing to sell, another to buy; one person again is vendor and the other, purchaser; and, in the same way, the price is one thing, the object of sale, another; but, in exchange, one cannot discern which party is vendor and which, purchaser.'

[85] The Sabinians cited *Il*. 7.472, to which the Proculians replied with *Il*. 6.234, and *Od*. 1.430. For analysis of these Homeric quotes, see Daube (1949); Mayer-Maly (2004); Blaho (2008).

[86] Contra, e.g., Karlowa (1885) 662-5, who sees the Sabinians as novelists who preferred foreign Greek attitudes over old republican Roman ideals; Behrends (1983-1984), who claims that the Proculians were progressives, and the Sabinians conservatives; (2002) 245-7, who argues that the Proculians' Homeric citation (*Il*. 6.234) indicates that their insistence on differentiating sale from barter was due to a new (i.e. progressive) attitude which viewed barter as inferior.

[87] Leesen (2008) 289-90, 295-8; (2010) 226-32; Blaho (2008) esp. 60, who argues that Proculians and Sabinians relied on the same Homeric verses to support two opposite views.

barter was a *species* of sale, Paul suggests that it was, in fact, the other way around.[88] '*Origo emendi vendendique a permutationibus coepit*',[89] states Paul at the start of the paragraph which precedes the one quoted above; thereby reconstructing an archaic, moneyless Roman past dictated by barter. The truthfulness of Paul's observation is of little relevance; what is important is the fact that he makes it. It is rooted in a centuries-long tradition, which can be traced back to Aristotle,[90] and which distinguishes 'sale' from 'barter', seeing the latter as a less developed form of transaction.[91] A similar attitude is expressed also by Polybius.[92] Pliny the Elder describes an idealised archaic past in which, in contrast to the reality of his own days, exchange was conducted via barter.[93] The first-century BCE Roman historian, Sallust, has 'sale' and 'barter' (*emundi aut mutandi*) as two separate modes of operation.[94] And Tacitus, probably echoing opinions which support the Proculian line of argumentation, says that the more distant Germanic tribes practise barter (*permutatione mercium*) since they have no precious metals (*argentum et aurum*) and do not use money (*pecunia*).[95]

The Proculians' insistence on differentiating sale from barter did not derive solely from a wish to depict the former as a more advanced form of exchange than the latter. Rather, according to the Proculian view, the need to distinguish sale from barter was dictated by internal formalities of Roman jurisprudence.

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[88] Falchi (1981) 85-99; Nelson and Manthe (1999) 525-30; both rely in their analyses on Paul. *Dig*. 18.1.1.pr. (33 *ad ed*.). However, see Leesen (2010) 226, who argues that this excerpt should not be included in the Proculian argumentation in favour of a pecuniary purchase-price.
[89] Paul. *Dig*. 18.1.1.pr. (33 *ad ed*.).
[90] Arist. *Pol*. 1257a.
[91] Nelson and Manthe (1999) 525-31.
[92] Plb. 34.8.4-10, esp. 10; as preserved in the *Deipnosophistae* of the late second-century grammarian Athenaeus of Naucratis; Ath. VIII 330e.
[93] Plin. *NH* 33.6.
[94] Sall. *Iug*. 18.
[95] Tac. *Ger*. 5.

Paul. *Dig*. 19.4.1.pr. (32 *ad ed*.):

> Sicut aliud est vendere, aliud emere, alius emptor, alius venditor, ita pretium aliud, aliud merx. At in permutatione discerni non potest, uter emptor vel uter venditor sit, multumque differunt praestationes. Emptor enim, nisi nummos accipientis fecerit, tenetur ex vendito, venditori sufficit ob evictionem se obligare possessionem tradere et purgari dolo malo, itaque, si evicta res non sit, nihil debet: in permutatione vero si utrumque pretium est, utriusque rem fieri oportet, si merx, neutrius. Sed cum debeat et res et pretium esse, non potest permutatio emptio venditio esse, quoniam non potest inveniri, quid eorum merx et quid pretium sit, nec ratio patitur, ut una eademque res et veneat et pretium sit emptionis.[96]

According to Paul, the Proculians argued that a sale required a clear distinction between the parties, since each party was bound under a different set of obligations (*multumque differunt praestationes*).[97] While the buyer was obliged to pay the agreed purchase-price and transfer ownership over it,[98] the seller's obligations included to care for the thing sold until its transfer,[99] to deliver (*tradere*) it to the buyer's possession and enjoyment (*habere licet*),[100] and to remain free of fraud (*dolus malus*). The seller was also

[96] Paul. *Dig*. 19.4.1.pr. (32 *ad ed*.): 'Just as selling is distinct from buying and the buyer from the seller, so too the price is distinct from merchandise. But in barter it is impossible to distinguish who is buyer and who is seller, their duties being very different. The buyer is liable on sale if he does not make the recipient the owner of the money, whereas the seller need only obligate himself in the event of an eviction, deliver the possession, and remain free of bad faith, and thus he owes nothing if there is no eviction from the object. But in barter, if both things are price, then they must become the property of each party, and if merchandise, then they need not become the property either. But since there should be both an object and a price, [barter] cannot [be sale and purchase, for there is no way] of knowing which thing is merchandise and which price, nor does common sense allow that one and the same thing be both the object sold and the price of purchase.'

[97] Hence the double name for the transaction, *emptio venditio*; De Zulueta (1957) 3. In later Byzantine law the double name often was abandoned, replaced by *venditio* alone.

[98] Ulp. *Dig*. 19.1.11.2 (32 *ad ed*.), who speaks of *nummi* and *pretium numeratum*. *Pretium numeratum* appears also in 19.1.11.6, referring to a purchase-price already paid, which consequently required the return of a ring given by way of earnest.

[99] Gai. *Dig*. 18.1.35.4 (10 *ad ed. prov*.). On liability for latent defects, see Zimmermann (1996) 305-26.

[100] Paul. *Sent*. 1.13a.4; Ulp. *Dig*. 19.1.11.2 (32 *ad ed*.); De Zulueta (1957) 35-50; Kaser (1971) 550-4; Zimmermann (1996) 278-80. In a sale of landed property the vendor's obligations included its transfer *vacua possessio*; Labeo *Dig*. 18.1.78.1 (4 *post. a javol. epit*.); De Zullueta (1957) 36-40; Kaser (1971) 550, 553; Zimmermann (1996) 293-9.

liable for eviction,[101] i.e. held responsible in case a buyer would be evicted from the thing sold by someone with sounder claims. Unlike the buyer, the seller was not obliged to transfer ownership, as it was not always the case that she or he was the owner.[102] For the transfer of ownership a separate legal act of formal conveyance was required:[103] *mancipatio* in the case of *res mancipi*,[104] and *traditio* in the case of *res nec mancipi*.[105] Having a separate act for the transfer of ownership—independent of the consensual nature of Roman sale, in which the moment of payment was detached from that of the delivery—presumably further stimulated sale on credit, and consequently perhaps also economic activity.[106]

[101] Ulp. *Dig*. 19.1.11.2 (32 *ad ed*.).

[102] Paul. *Sent.* 2.17.1; Ulp. *Dig*. 18.1.25.1 (34 *ad sab*.); 28 (41 *ad sab*.), who explicitly says that sale of a third party's property is valid; Afric. *Dig*. 19.1.30.1 (8 *quaest*.); Paul. *Dig*. 19.4.1.pr. (32 *ad ed*.); Daube (1953) 191; De Zulueta (1957) 36-7; Kaser (1971) 550-1; Zimmermann (1996) 278-9.

[103] *FIRA* III 88, concerning a sale of a boy; Ulp. *Dig*. 45.1.38.3; 8 (49 *ad sab*.), who discusses the distinction between *possidere* (to possess) and *tenere* (to hold); 9, who states that *habere* does not imply possession but rather a holding. Also, see Zimmermann (1996) 239-40, 271; Daube (1953) 187, for the use of the verb *distrahere* as meaning 'to sell and to transfer'.

[104] *Mancipatio* was the formal act of transferring ownership over certain possessions, restricted to cases where both parties were Roman citizens, and the thing changing ownership was Italian land, slaves, or certain animals of draught and burden, such as oxen, horses, asses, or mules; chattel and provincial land were excluded. The importance of *mancipatio* declined already in the late Republic, after the praetor had granted praetorian ownership rights over *res mancipi* that were delivered by *traditio*. Gai. *Inst.* 1.119-122; 4.131; Paul. *Sent.* 1.13a.4; Pringsheim (1950) 199; De Zulueta (1957) 37; Kaser (1971) 131-4, 545-6; Stein (1972) 27-8; van den Brink (1974) 85-7; Falchi (1981) 99-113; Zimmermann (1996) 271-2; Leesen (2010) 60-1, 66-7; and discussion on pp. 118-21, below. By the time of Justinian the use of *mancipatio* in *actio ex empto* was no longer in practice.

[105] Gai. *Inst.* 2.19-20. Ownership over both *res mancipi* and *res nec mancipi* could be transferred also *in iure cession*. Ownership over *res nec mancipi* (and from the late Republic, also praetorian ownership over *res mancipi*) could pass by *traditio*, literally a 'handing over', via the act of the sale itself, in which case the sale provides the *iusta causa traditionis*. This could be achieved by the passing of the object of the sale from hand to hand; Paul. *Dig*. 41.2.1.21 (54 *ad ed*.); Javol. *Dig*. 41.2.51 (5 *ex post. lab*.); or, by already having it in the possession of the purchaser before the sale took place (*traditio longa/ brevi manu*); Cels. *Dig*. 21.2.62.pr. (27 *dig*.); 41.2.18.2 (23 *dig*.); Gai. *Dig*. 41.1.9.3-7 (2 *cott*.), esp. 5-6; Ulp. *Dig*. 6.2.9.2 (16 *ad ed*.); Paul. *Dig*. 41.2.3.1 (54 *ad ed*.). Also, see Daube (1953); De Zulueta (1957) 39; Kaser (1971) 416-8, 546-7; Zimmermann (1996) 239-40; Pringsheim (1950) 91, for comparison with Greek law.

[106] By contrast, in contemporary Greek-Hellenistic practice as reflected in Egyptian papyri, ownership was acquired by full payment of the price; Pringsheim (1950) 88. Declarations of transfer of ownership were public acknowledgement of the transfer (*ἐκμαρτύρησις*), rather than the act of transfer itself; e.g. *P.Oxy*. LII 3691 (Oxyrhynchos, 139), which attests a sale of landed property, where the price of 200 *drachmae*

It is the difference in the obligations of the parties, so argued the Proculians, which demanded a clear distinction between seller and buyer.[107] This, they claimed, was made possible only when differentiating *merx*, the object of sale, from *pretium*, the price received for it; a differentiation impossible in barter. A well-defined division between *merx* and *pretium*, their argumentation continued, can only be accomplished via a universal means of payment, applicable in all transactions, i.e. money.[108] It is the use of money which allowed it always to be determined which party provided the price, and was therefore the buyer, liable under the *actio venditi*; and which the merchandise, and was therefore the seller, liable under the *actio empti*.[109] Thus, according to the Proculian line of reasoning, the pecuniary requirement was not a goal in itself, but rather an outcome of a procedural jurisprudential need.

According to the Proculian view, as long as part of the remuneration was given in *numerata pecunia* there was no difficulty in distinguishing buyer from seller, hence a purchase-price need not consist entirely of money. Therefore, the *actiones empti et venditi* could be made available also when a purchase-price included, in addition to a certain sum of money, the performance of services,[110] or the rendering of property.[111] However, if a purchaser agreed that in addition to paying a certain sum of money she or

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had already been paid and the buyer's obligation to pay the sale-tax (*ἐγκύκλιον*) agreed. For further references to papyri, see Pringsheim (1950) 197-9, 204-5.

[107] A point stressed also by Leesen (2010) 220-1, who, however, certainly is not the first to notice it.

[108] Javol. *Dig*. 19.2.21 (11 *epist*.), who uses both *pecunia* and *pecunia numerata* with regard to a purchase-price. A price given in metal was insufficient for contracting a sale, since metal *per se* was not money. Also, see Daube (1949) 213, who argues that the Homeric quotation mentioning payment *χαλκῷ*, should not be understood to mean 'in money', as might be implied from the Latin translation *aere*, but rather 'in bronze'; on *aes* is the sense of 'money', see Ch. 2, p. 66, above.

[109] Zimmermann (1996) 277; Ulp. *Dig*. 14.3.5.12 (28 *ad ed*.), who distinguishes between the two actions when an agent is instructed to perform sale or purchase.

[110] Pompon. *Dig*. 19.1.6.1 (9 *ad sab*.), where the additional service rendered is repairing a building owned by the seller.

[111] Pompon. *Dig*. 19.1.6.2 (9 *ad sab*.), where the buyer agreed also to transfer to the seller ownership over part of the building(s) which he was to construct on the parcel of land sold.

he would also entre an additional contract, the Proculian view—contrary to the Sabinian one—was that the *actio ex vendito* cannot be used to enforce this commitment.[112]

The difference of opinion between the two schools concerning the pecuniary nature of a purchase-price continued throughout the second century, and perhaps also the third. The Severan jurist Paul felt confident enough in the predominance of the Proculian view to state that 'in the prevailing view the barter of objects is not sale'.[113] However, at least according to one scholar,[114] a rescript of the emperor Gordian (238-244), which concerns an exchange of landed property and regards it as a kind of a sale,[115] may be interpreted as evidence for the prevailing acceptability of the *media sententia* offered by Caelius Sabinus, according to which a purchase-price can be given *in natura*. One may doubt this interpretation. Even if it is accepted, by the second half of the third century legal opinion in the imperial court promoted the Proculian stance, and before the end of the third century the controversy was decided in favour of the Proculian view.[116] In a rescript dated to 294,[117] the emperors Diocletian and Maximian explicitly state that exchanging grain for oil does not fall under the category of a sale, and that this decision

[112] The Proculian stance is reported in Javol. *Dig*. 18.1.79 (5 *ex post. lab*.), where half a parcel of land is sold with a proviso that the purchaser would lease the other half, kept at the seller's possession.
[113] Paul. *Dig*. 19.5.5.1 (5 *quaest*.): '*Et si quidem pecuniam dem, ut rem accipiam, emptio et venditio est: sin autem rem do, ut rem accipiam, quia non placet permutationem rerum emptionem esse…*'.
[114] Leesen (2010) 232-3.
[115] *CJ* 4.64.1 (Gord., 238).
[116] This is also the legal stance of Justinian; Just. *Inst*. 3.23.2, who follows Gai. *Inst*. 3.141, in reporting the school controversy, but states that previous emperors (*anteriores divi principes*) had already settled it in favor of the Proculians.
[117] *CJ* 4.64.7 (Diocl. et Maxim., 294). Though elsewhere the same emperors recognised the resemblance of barter (*permutatio*) to sale (*emptio*); *CJ* 4.64.2.

had already been taken before their constitution;[118] thereby declaring the requirement of *pretium in numerata pecunia* to be legally binding.[119]

4.5. Interpretations of the Controversy

The key to understanding the nature of the school controversy described in Gai. *Inst.* 3.141, Paul. *Dig*. 18.1.1.1 (33 *ad ed*.), and 19.4.1.pr. (32 *ad ed*.), lies in extracting the question around which opinions had divided. Did the controversy primarily revolve around the question of the form in which a purchase-price ought to be paid, i.e. *in natura* or *in numerata pecunia*? Or, was it a theoretical dispute concerning the distinction between barter (*permutatio*) and sale (*emptio venditio*)? What were the reasons which sparked this controversy to begin with? Was it initiated by an inward-looking legal need to clarify procedural jurisprudence; or, by actual economic practice? Opinions in scholarship differ according to the interpretations offered for the existence of the two schools.[120]

In the long and established Romanist tradition that looks for consistent criteria to distinguish Sabinians from Proculians, there has been a tendency to pose at the heart of this controversy the legal issue of separating sale from barter; thereby stressing the dogmatic reasoning embedded in the argumentation of each school. The distinction between the two forms of exchange, sale and barter, is seen as an outcome of contrasting legal conceptions held by the adherents of each of the schools. Thus, according to this line of reasoning, the controversy was mainly a matter of juristic definitions: was barter a

[118] Kaser (1971) 550, n. 43; (1975) 277, n.25.
[119] Leesen (2010) 233-6.
[120] For a summary, see Leesen (2010) 221-6.

species of sale, as maintained by the Sabinians; or, did the two belong to two separate legal categories, as argued by the Proculians.[121] This theoretical legal issue also had important jurisprudence implications; namely, establishing when the *actiones empti et venditi* could be applied.[122] As pointed out by Mayer-Maly,[123] neither Sabinians nor Proculians recognised *permutatio* as an independent *contractus*, in the sense that a failure in fulfilling a *permutatio* obligation was not met with a specific *actio*; rather, it was first met with a *condictio*,[124] then with an *in factum actio*, and finally with an *actio praescriptis verbis*.[125] Seeing the controversy as revolving around the question of a clear distinction between sale and barter, that stemmed from a legal procedural need, establishes it mainly as an internal legal matter.

Phrasing the controversy in dogmatic terms, i.e. as emerging from a need to discern sale from barter, conceals within it the triumph of the Proculian view, which argued that the pecuniary requirement was a direct outcome of jurisprudential formalities. *Emptio venditio* created two sets of obligations: one for the seller, another for the buyer.[126] While the seller had to transfer possession over the merchandise (*merx*), but not ownership; the buyer was obliged to transfer ownership over the agreed purchase-price

[121] Stein (1972), followed by Scacchetti (1984) 386-90, who phrases this question in terms of the "anomalists" Sabinians vs. the "analogists" Proculians; Falchi (1981) 85-99, who sees it as a dispute between the "progressive" Sabinians, who relied on the consensual nature of *emptio venditio* to broaden the spectrum of cases that can be regarded as sale, and the "conservative" Proculians, who remained loyal to archaic Roman conceptions, where sale, according to Falchi, originally was a real contract (i.e. *mancipatio*); Behrends (1983-1984), who sees the Sabinians as conservatives, who clang to traditional system of exchange, and the Proculians as progressives, who preferred a market-oriented sale over primitive barter.

[122] Betti (1915) 27-9; Stern (1972); Scacchetti (1984) 386-90; Zimmermann (1996) 250-2.

[123] Mayer-Maly (1991) esp. 222.

[124] On *condictio* see, Watson (1965) 10-17.

[125] On the *actio praescriptis verbis* and protection of innominate contracts, see Ch. 5, pp. 154-5-8, below.

[126] Consequently each party was liable under a different legal action: the *actio empti* made available to the purchaser against the vendor, and the *actio venditi* to the vendor against the purchaser.

(the legal texts often speak of *nummi*).[127] The asymmetry in the parties' obligations, argued the Proculians, demanded a clear distinction between them, which could only be achieved via the pecuniary requirement from *pretium*. A circular argument may explain the asymmetry in the parties' obligations—only the buyer was to transfer ownership—as one affected by the nature of money itself. While the object of a sale had to be specifically defined, the purchase-price—precisely because it was reckoned in money—was, as a principle, restricted to neither specific objects nor particular coins.[128] It is the uniformity of money—being both homogeneous and 'available in random quantity',[129] i.e. that any one piece of it can randomly be replaced by any equivalent other—which allowed for this, and which made money so attractive for facilitating exchange in the first place.[130]

One of the interpretations which see the controversy as revolving around the distinction between sale and barter—namely, that of Gian Luigi Falchi—deserves further attention. Falchi connects the pecuniary requirement with the ceremonial act of *mancipatio*.[131] As mentioned above, *mancipatio* was the traditional Roman act for a formal conveyance of ownership over *res mancipi*; with *res mancipi* including Italian land, slaves, and certain domesticated animals of draught and burden, such as oxen,

[127] Ulp. *Dig*. 19.1.11.2 (32 *ad ed*.); Paul. *Dig*. 19.4.1.pr. (32 *ad ed*.); both hold the *emptor*'s obligation to be the transfer of *nummi* to the *venditor*. *CJ* 4.49.7 (Diocl., 293), for the sale of slaves; De Zulueta (1957) 51; Kaser (1971) 551; Zimmermann (1996) 277.

[128] Ulp. *Dig*. 30.34.3 (21 *ad sab*.); unlike cases where *certi nummi* (contra a general sum of money) are bequeathed or stipulated for; Ulp. *Dig*. 30.34.4 (21 *ad sab*.); Paul. *Dig*. 45.1.37 (12 *ad sab*.); Daube (1959) 17; and discussion on Ch. 8, below.

[129] Zimmermann (1996) 279, who adds that for this reason a buyer could 'reasonably be expected to pay the price with coins of which he is able to make the vendor owner'. These criteria are fulfilled not only by coinage, but also by any material which can be both easily divided and given a uniform quality.

[130] Paul. *Dig*. 18.1.1.pr. (33 *ad ed*.); Daube (1959) 17, who is surely right in concluding that 'it is very doubtful whether, once it is established that there must be a money price, the price may consist in specific coins, *corpora*', for such cases, Daube continues, 'should be *permutatio*'.

[131] Falchi (1981) 85-99.

horses, mules, and asses.[132] In *mancipatio* the party gaining possession had to strike a brazen scale (*libra aenea*) with a piece of bronze whilst uttering certain formulae in the presence of six witnesses (the *libripens*, the scale's holder, included).[133] The ceremony contains traces of an archaic Roman past, when bronze bullion was the accepted monetary instrument.[134] Similar to barter (*permutatio*),[135] in *mancipatio* it was the transfer of objects which created the obligation; hence, *mancipatio* may be regarded as a kind of real contract. However, *mancipatio*, more than resembling *permutatio*, echoes an archaic sale: the party gaining possession always rendered bronze in return,[136] with the latter providing the *causa* for the conveyance. Thus, Falchi is probably right when terming *mancipatio* as 'Barkauf';[137] and Gaius even says that in *mancipatio aes* is given *quasi pretii*.[138] In this respect the ceremony of *mancipatio* demonstrates how entrenched the notion of money was in the Roman conceptualisation of sale.[139]

However, Falchi takes his argumentation one step further. He claims that it was the conservatism on the part of the Proculians which stimulated their requirement that a purchase-price be defined in money. According to Falchi, the archaic *mancipatio* was in fact an archaic form of sale, which existed prior to the emergence of Roman consensual sale. In *mancipatio* the conveyance was dependent on the scaling and transfer of bronze,

[132] Gai. *Inst*. 1.120; 2.16-17; Ulp. *Ep*. 19.1. On the school controversy concerning the question whether animals that are *mancipi* can be regarded as such from birth (the Sabinian view), or only after reaching the age of domestication (the Proculian view), see Gai. *Inst*. 2.15; Stein (1972) 27-8; Liebs (1976) 251; Falchi (1981) 99-113; Scacchetti (1984) 378-81; Stolfi (1997) 53; Leesen (2010) 58-69.

[133] Gai. *Inst*. 1.119. A similar ceremony (i.e. *per aes et libra*) took place also for a release from obligation; Gai. *Inst*. 3.173-4.

[134] Gai. *Inst*. 1.122; Crawford (1985) 1-24, for bronze being the monetary instrument of archaic Rome.

[135] Paul. *Dig*. 19.4.1.2 (32 *ad ed*.).

[136] Van den Brink (1974) 86, who suggests that, similar to the case of *permutatio*, in sale originally 'the point of departure was simultaneous exchange'.

[137] Gai. *Inst*. 1.119, who explicitly makes this comparison.

[138] Gai. *Inst*. 1.119, *ad finem*.

[139] As put by De Zulueta (1957) 3, 'the ceremony of *mancipatio* shows sale in its earliest form, transacted *donnant donnant*'. Also, see van den Brink (1974) 85-7; Bürge (1982).

which Falchi parallels with a pecuniary purchase-price. The conservative Proculians, argues Falchi, realised this comparison, therefore inferred that just as *aes* in *mancipatio* was the *causa* for the conveyance, so should *pretium* in *emptio venditio* be regarded as the *causa* for the sale transaction. The progressive Sabinians, however, so argues Falchi, preferred the novelty of consensual sale, therefore considered a sale to be valid merely on the basis of the *voluntas* of the parties,[140] independent of the transfer of either *merx* or *pretium*.

Falchi's analysis is influenced by his interpretation of the existence of the schools in general, seeing the division between Sabinians and Proculians in terms of progressives vs. conservatives, respectively.[141] Yet, several points may be raised against it. First, neither Gaius nor Paul mention *mancipatio* in their description of this controversy, let alone parallel it with sale.[142] Second, Falchi underestimates the significance of the praetor's decision in the late Republican period to grant praetorian rights of ownership over *res mancipi* delivered by mere *traditio*. Consequently, the importance of the ceremony of *mancipatio* had probably declined.[143] It is perhaps a bit presumptuous to assume that in the second half of the first century—more than a century after the praetor made *traditio* available for transferring ownership over *res mancipi*, and more than two and a half centuries after the establishment of Roman consensual sale—*mancipatio* was so firmly associated with sale that it could by itself stir a school controversy regarding the

[140] Falchi (1981) 252-4; summarised in Leesen (2010) 9-10. On *voluntas* and its relation with *consensus*, see Just. *Inst*. 3.29.4; Berger (1953) 408, on *consensus*, 770-1, on *voluntas*; Du Plessis (2012a) 16-8.
[141] This attitude is expressed throughout his book; e.g. Falchi (1981) 246, 252.
[142] Leesen (2010) 224.
[143] Though the distinction between *res mancipi* and *res nec mancipi* was relevant enough to cause disagreement between the schools regarding the question whether an animal was *res mancipi* from birth or only after domestication; Gai. *Inst*. 2.15; Falchi (1981) 99-113; Leesen (2010) 58-69, with Falchi's analysis criticised in pp. 65-6.

nature of a purchase-price. Third, even if one accepts Falchi's general line of argumentation, explaining the existence of the schools in terms of progressives (Sabinians) vs. conservatives (Proculians), there is no basis for his hidden proposition as if the requirement for a pecuniary purchase-price somehow had contradicted the consensual essence of *emptio venditio*, and that this was the reason why it was rejected by the Sabinians.

Fourth and last, from Falchi's analysis it appears as if an analogy between *aes libra* on the one hand, and *numerata pecunia* on the other, was a trivial one to make on the part of first- and second-century CE Roman jurists. However, there is no convincing basis for the assumption that jurists associated with the Proculian school necessarily had perceived bronze bullion as equivalent to *numerata pecunia*. It is true that metals could and did act as means of payment also in imperial time.[144] However, not only were Roman jurists well aware of the variation in the fineness of metals, hence also in its value,[145] they also recognised that metals in themselves could be the object of a sale.[146]

The Proculians did not simply require that a purchase-price be in money, i.e. *in pecunia*; rather, their requirement was that it ought to be *in numerata pecunia*.[147] As seen in Chapter 2 above, both Ulpian and Hermogenian explicitly state that *pecunia* is *non*

[144] Plin. *NH* 33.1, where metals are considered as *rerum pretia*. On metals as commodity money, see Ch. 2, above.
[145] Paul. *Dig*. 18.1.10 (5 *ad sab*.).
[146] Ulp. *Dig*. 18.1.9.2 (28 *ad ed*.).
[147] However, see Cels. *Dig*. 12.4.16 (3 *dig*.), where Celsus, the head of the Proculian school in the time of Hadrian, thinks that when one party gives *pecunia* in order that the other party will give a slave, the obligation which arises, rather than being *emptio venditio*, is, in fact, such which arises from a thing 'given for a purpose which fails to materialise' (*quam ob rem dati re non secuta*). See Cristaldi (2007) 77-117, for a detailed discussion of this excerpt; esp. 89-95, for possible interpolations; and 114-6, for the view that *pecunia* stands for cash money (Cristaldi uses 'in denaro'), and that in this case Celsus did not qualify the transaction as *emptio venditio* because the *pecunia* was delivered before the parties reached an agreement on the particular amount to be paid, hence without *convenire de pretio*.

solum numerata pecunia, but includes *omnia corpora* or *omnes res*;[148] and also Gaius, who associates himself with the Sabinian school, defines *pecunia* as *omnes res*, including under this term also 'wine, grain, land, and a slave'.[149] A Proculian requirement that *pretium* be *in pecunia*—assuming that this word was understood by jurists in the general meaning of 'wealth'—would have rendered such a requirement irrelevant for their line of argumentation, according to which sale needs to be differentiated from barter. Yet, the requirement of *pretium in numerata pecunia* should not be understood simply as demanding that a purchase-price be paid in cash money, i.e. coinage.[150] Rather, the phrase *numerata pecunia* probably should be understood more literally, in the sense of '*pecunia* counted out'; in which case it was not used necessarily to designate coinage alone. Instead, the Proculian requirement referred to a more abstract notion of money in the sense of a uniform measurer of value, i.e. a unit of account. If this view is accepted, than the requirement of *pretium in numerata pecunia* meant that a purchase-price must be stated, though not necessarily paid, in monetary terms, i.e. in pecuniary units of account.

Yet, two excerpts—one from Paul,[151] the other from Ulpian[152]—show that Ulpian's and Hermogenian's definitions,[153] according to which the originally broad meaning of *pecunia* was specified by adding *numerata* so that it would mean coinage, was in fact more of an internal legal matter. As shown below, these two excerpts indicate how far reaching the common (i.e. "layman's") understanding of the word *pecunia*—

[148] Ulp. *Dig*. 50.16.178 (49 *ad sab*.); Herm. *Dig*. 50.16.222 (2 *iur. epit*.); and, see Ch. 2, pp. 73-7, above, and esp. n, 164, on the context in which these definitions were placed.
[149] Gai. *Inst*. 3.124, who explicitely says that he is talking of *pecunia in ea lege*, i.e. in the context of the *Lex Cornelia*, that might also have referred to inheritance, which is probably why the definition is so wide.
[150] On *numerata pecunia*, also see Ch. 2, pp. 76-7, above.
[151] Paul. *Dig*. 19.5.5.1 (5 *quaest*.).
[152] Ulp. *Dig*. 14.6.7.3 (29 *ad ed*.).
[153] Ulp. *Dig*. 50.16.178.pr. (49 *ad sab*.); Herm. *Dig*. 50.16. 222 (2 *iur. epit*.).

which associated it first and foremost with *numerata pecunia* in the sense of coinage or cash money—really was.

Paul in his two reports of this controversy,[154] which support the Proculian stance, mentions neither *pecunia* nor *numerata pecunia*; instead he speaks of *nummi*. Elsewhere, in a long excerpt which contains a legal categorisation of exchange transactions,[155] Paul repeats the Proculian stance concerning the nature of a purchase-price in *emptio venditio*. However, in that excerpt his wording is somewhat different. While a situation in which a thing (*res*) was given for another thing (again, *res*) is categorised as barter (*permutatio*); a sale (*emptio venditio*), according to Paul, occurs only if one party offers *res* while the other party offers money, and Paul uses here the word *pecunia*.[156] When combined with Paul's description of the *pretium in numerata pecunia* controversy, there is no doubt that here when Paul says *pecunia* he has in mind *nummi*, i.e. *numerata pecunia* in the sense of 'cash money'.

No less intriguing is the following excerpt from Ulpian:

> Mutui dationem non solum numeratae pecuniae, verum omnium, quae mutua dari possunt, an accipere debeamus, videndum. Sed verba videntur mihi ad numeratam pecuniam referri: ait enim senatus "mutuam pecuniam dedisset". Sed si fraus sit senatus consulto adhibita, puta frumento vel vino vel oleo mutuo dato, ut his distractis fructibus uteretur pecunia, subveniendum est filio familias.[157]

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[154] Paul. *Dig*. 18.1.1.1 (33 *ad ed*.); 19.4.1.pr. (32 *ad ed*.).

[155] Paul. *Dig*. 19.5.5 (5 *quaest*.); mentioned in Ch. 3, p. 92, above, and further discussed on Ch. 5, pp. 161-3, below.

[156] Paul. *Dig*. 19.5.5.1 (5 *quaest*.): '*Et si quidem pecuniam dem, ut rem accipiam, emptio et venditio est: sin autem rem do, ut rem accipiam, quia non placet permutationem rerum emptionem esse, dubium non est nasci civilem obligationem, in qua actione id veniet, non ut reddas quod acceperis, sed ut damneris mihi, quanti interest mea illud de quo convenit accipere…*'.

[157] Ulp. *Dig*. 14.6.7.3 (29 *ad ed*.): 'Should the making of a loan be taken to cover the loan of anything that may be lent, or only the loan of money? The words themselves seem to me to refer to money, since the expression used by the senate is "has lent money". But if a loan of, say, corn or wine or oil is made so that the son-in-power may sell it and use the proceeds, this is a fraud on the *senatus consultum* and he should be given relief.'

The excerpt concerns the *senatus consultum Macedonianum*, a Senate decision passed under Vespasian (69-79), which stated that a person who gave a loan of the type of *mutuum* to a son-in-power (*qui filio familias mutuam pecuniam dedisset*) could not pursue any legal action for collecting the debt, either during the life time of the *pater familias*, or after his death.[158] Ulpian, wishing to clarify which loans were included under this *SC*, says that although the wording of the *SC*—which reads *mutuam pecuniam dedisset*—seems to him to refer to *numerata pecunia*, still the *SC* should be understood in a broadening sense, as referring also to *mutuum* of goods, such as corn, wine, or oil. What is interesting for the current discussion is that Ulpian seems to assume that in this *SC* the word *pecunia* had originally been used in the narrow sense of *numerata pecunia*, presumably referring to cash money or coins, and not in the general sense of *omnia corpora*, which Ulpian gives *pecunia* elsewhere, in his definition of *pecunia* cited above.[159] If it was so trivial that *pecunia* had indeed meant *omnia corpora*, there would have been no need for Ulpian to clarify that *mutua pecunia* was *non solum numeratae pecuniae*, but that it included also *frumento vel vino vel oleo mutuo dato*. His elaboration on this point indicates just how entrenched the notion of *pecunia* as cash or coinage—signified by the phrase *numerata pecunia*—actually was. It was so rooted in normative conceptualisation that *numerata pecunia* was in fact the first and chief association which accompanied the word *pecunia* even in the mind of Ulpian.

[158] Ulp. *Dig*. 14.6.1 (29 *ad ed*.). For the dating of this *SC*, see Daube (1947); Berger (1953) 698; Kaser (1971) 248, 532; (1975) 369-70.
[159] Ulp. *Dig*. 50.16.178.pr. (49 *ad sab*.).

Lastly, a somewhat different line of explanation for the *pretium in numerata pecunia* controversy has recently been offered by Tessa Leesen.[160] Leesen sees this school controversy as revolving around the question of the form in which a purchase-price ought to be paid.[161] According to her, the division into schools was mainly an outcome of legal practice. The schools were not created due to formalities of Roman jurisprudence, but rather derived from the real working of the Roman legal system, and the casuistic nature of Roman law. Leesen suggests that the controversy arose from an actual case, where the buyer fulfilled his obligation by paying the price in kind, whilst the seller was interested in receiving it in money. Since a price was paid the seller could not simply bring an *actio venditi* against the buyer. Instead she or he claimed that what was given by way of price was insufficient. While one party in the dispute, the seller, asked for legal advice from a jurist associated with the Proculian school; the other party, the buyer, approached a jurist associated with the opposite school. The Sabinian jurist, arguing in favour of his client the buyer, claimed that since barter was a *species* of sale, the price could consist of other things besides money. The Proculian jurist, arguing in favour of his client the seller, claimed that because barter and sale were two distinct contracts, a price had to consist of money.[162] Thus, according to this interpretation, the discussion concerning the distinction between sale and barter was sparked due to its argumentative value: the Sabinian jurist built the case of the buyer by using the *topos* of

[160] Leesen (2008); (2010) 215-36, esp. 222-3, 226-32.
[161] Leesen (2010) 222, who argues that the scholarly focus on the distinction between sale and barter derives from the fact that the legal problem had not been 'correctly defined'; and claims that 'only the question of whether the price had to consist of money was at issue', while the question 'whether barter was a *species* of sale' was only an argumentative route to justify a legal reply.
[162] Leesen (2008) 292-3.

locus a specie;[163] the Proculian jurist built the case of the seller by means of the *locus a differentia*.[164]

If Leesen's interpretation is accepted, than the interesting question for the present discussion would be, why was it so important for the seller to receive the purchase-price in *numerata pecunia*; and furthermore, why was the buyer so reluctant to do so, that she or he was willing to go to court on this issue. These questions are difficult to answer. If indeed this school controversy was sparked by one specific case, we do not know its details, apart from the assumption that the buyer paid the price *in natura*. There is no way of assessing the sums involved; we have no way of knowing what the object of the sale was, nor the merchandise given in return by way of a price. The insistence on *numerata pecunia*—on the part of both the seller for receiving it, and the buyer for not rendering it—may suggest that large sums were at stake. In any event, if this controversy was indeed initiated by a particular dispute concerning the form in which a purchase-price ought to be paid, *in natura* or *in numerata pecunia*, it indicates that receiving/paying in coinage (assuming that this is what *numerata pecunia* stood for) did make a difference; with both seller and buyer preferring to possess cash money, instead of some other form of wealth.

4.6. The implications of *pretium in numerata pecunia*

From the school controversy reported in Gaius' *Institutiones* 3.141, Paul. *Dig*. 18.1.1.1 (33 *ad ed*.), and 19.4.1.pr. (32 *ad ed*.), it appears that during the period here under investigation a lively legal debate was taking place concerning the pecuniary nature

[163] Leesen (2010) 228.
[164] *Idem* 231-2.

of a purchase-price in sale transactions. The implications of this legal debate on the present topic of study depend on how one chooses to interpret this specific controversy and the separation into legal schools in general.

One possibility is to see the controversy as revolving mainly around the issue of the pecuniary nature of a purchase-price. According to Leesen,[165] the controversy emerged from the practical working of the Roman legal system. It was initiated by an actual case, where the buyer had paid a price in some form other than cash money, but the seller insisted on receiving it in *numerata pecunia* (=*nummi*). Both parties went through considerable efforts to defend their preferred method of payment, consulting leading jurists in order to produce legal argumentation that would favour their interests. According to this line of interpretation, both parties considered themselves subject to loss by not having in their possession *numerata pecunia*, presumably cash or coinage. A preference for holding cash money tells us nothing in addition to the usual postulations; namely, that cash is easier to measure, store, transfer, apply in future transactions, and fulfil with it commitments to ruling authorities.

A different, more conventional, line of interpretation is that which sees this school controversy as a purely internal legal matter which concerned juristic definitions. According to this line of reasoning the controversy was set off by jurisprudential procedures, i.e. by a need to decide which contract was at hand in order to know which legal action can be applied.[166] Whether the difference of opinion between the schools was initiated by a difference in legal methodology, i.e. a wish to avoid modification of legal

[165] Leesen (2010) 215-36.
[166] De Zulueta (1957) 16-8; Zimmermann (1996) 250-1.

formulae in contrast to a willingness to recognise new categories;[167] or, whether it was a matter of "traditional Roman ways" vs. legal innovation;[168] interpretations which adhere to this approach place at the centre of the controversy the question of distinguishing sale (*emptio venditio*) from barter (*permutatio*). The pecuniary nature of a purchase-price is perceived as derived from, hence subordinated to, more theoretical issues of legal definitions. Thus, though a pecuniary requirement had surely had implications for the economic use of money, according to this line of interpretation actual practice was not what instigated the controversy to begin with.

If we assume that Roman jurists did take into their consideration the economic interests of the groups affected by their rulings,[169] then we need to assume that they realised the practical implications of a binding pecuniary requirement. If so, than two possibilities emerge. One is that jurists affiliated with the Proculian school had foreseen no real problem in making the pecuniary requirement binding in all sale transactions, either because most sales were already conducted in coined money, or since they expected no cash shortage that would avert it. To this may be added the assumption that a pecuniary requirement was generally perceived as benefiting the majority of the elite—to which most jurists presumably belonged—since it was members of the elite who controlled most of the empire's resources, hence potentially had more possessions to offer for sale. If indeed jurists had included in their considerations the consequence of

[167] According to this view, the "anomalist" Sabinians tried to subordinate new facts to old categories, while the "analogist" Proculians were ready to recognise new legal categories; Betti (1915) 26-9; Stain (1972); Scacchetti (1984) 401.
[168] Karlowa (1885) 662-5; Falchi (1981) esp. 85-99; both of which perceive the Sabinians as progressives and the Proculians as conservatives; Behrends (2002), who has it the other way around, the progressive Proculians vs. the conservative Sabinians.
[169] Kehoe (1997) 3.

their decision on the well-to-do segments of society, it would mean that upper-class Roman citizens gained more from receiving remuneration in *numerata pecunia* rather than in kind; presumably due to the general advantages of holding cash money already listed above.

There is, however, another possibility. According to it the Proculian requirement of *pretium in numerata pecunia* was not based on an understanding of the term *numerata pecunia* as necessarily referring to coinage alone. Instead *numerata pecunia* was perceived more literally as '*pecunia* which can be counted out'. The reason why jurists had foreseen no real problem in making the pecuniary requirement binding in all sale transactions was that *pretium in numerata pecunia* meant that a purchase-price was to be stated in monetary terms; rather than paid, whether partially or entirely, in actual coins. A similar approach was already seen above in punitive Roman law, where monetary units of account were the official quantifier of value of the Roman state for the procedure of *condemnatio*.[170] Such a reading of the phrase *numerata pecunia* places the discussion on the pecuniary requirement of a purchase-price on a more theoretical level. It shifts our interpretation of the Roman understanding of 'money' into a more abstract sphere, seeing money first and foremost as a unit of account. And, it gives further emphasis to the claim that the controversy revolved around abstract legal definitions; since one may raise the question, then, what difference did it make to any particular party how *pretium* was conceptualised and stated, if it had no immediate implications on the form in which it was materialised.

[170] Gai. *Inst*. 4.48-60; and Ch. 3, pp. 84-5, above.

Having said all of the above, one ought to keep in mind that all of these hypotheses are just that – simply postulations. Furthermore, if this school controversy had indeed revolved around the legal issue of differentiating sale from barter, then presumably the practical implications of a pecuniary purchase-price for actual economic practice were of lesser importance.

To conclude the discussion on the phrase *numerata pecunia*, if, as proposed by Leesen, the controversy arose from a real case in which the seller was unsatisfied with receiving the price in kind, than the requirement of *pretium in numerata pecunia* ought to be seen as referring to cash money, most probably coinage. If, however, the controversy was initiated by an inner legal dispute concerning juristic definitions and procedures, than maybe there is room to view the pecuniary requirement not necessarily as demanding that a purchase-price be paid in cash money, but rather that it ought to be agreed and stated in monetary terms; thereby suggesting that monetary units of account were perceived as the only stable form for expressing value.[171] Thus, we are left with two possibilities concerning the meaning of the phrase *numerata pecunia*: either it stood for cash money in the form of coinage, as supported by Paul's wording (i.e. *nummi*); or that it stood for money in the abstract sense of '*pecunia* which can be counted', i.e. a numeraire, a unit of account.

[171] This interpretation is affected by neither Ulp. *Dig*. 14.6.7.3 (29 *ad ed*.), nor the combination of Paul. *Dig*. 18.1.1.1 (33 *ad ed*.); 19.4.1.pr. (32 *ad ed*.); 19.5.5.1 (5 *quaest*.). The flexibility exhibited by Ulpian and Paul in giving the same meaning, of either cash or a numeraire, to both *pecunia* and *numerata pecunia* (and, at least in the case of Paul, also *nummi*), does not preclude the Proculian use of money as a institutionalised instrument which assists in diffretiating seller from buyer, hence sale from barter.

Lastly, barter did not vanish from Roman economic life, or from that of any other civilisation for that matter. Rather, following the Proculian triumph in this controversy the two forms of exchange coexisted, with Roman law recognising each as a separate legal agreement, distinct in nature and procedure. While in *permutatio* the parties operated under the same set of rules, the double name of *emptio venditio* signifies that two different sets of regulation were in force, one for the buyer, another for the seller.[172] While *permutatio* was a real contract, in which obligations were created only after the delivery of object(s),[173] *emptio venditio* was a consensual contract, based on the parties' agreement.[174] And while *permutatio* concerned the exchange of goods whatever form these might take, by the end of the period here under investigation *emptio venditio* was already emerging as a contract in which one party (the seller) provided goods while the other (the buyer) provided remuneration in the form of a purchase-price, which had to be stated, and perhaps also given, in *numerata pecunia*, presumably cash money or coinage, and at any rate a unit of account.

Surely not all exchange transactions were conducted in money; not even all sale transactions. Parties could and did contract sales in which the purchase-price was only partially paid in money, and partially in some other form. The second-century jurist Javolenus, for example, was of the opinion that a purchase-price could comprised partly of money and partly of an obligation to enter some other contracted transaction.[175] His contemporary, Pomponius, records a case of selling a building (*insula*) where the agreed

[172] Paul. *Dig*. 19.4.1.pr. (32 *ad ed*.).
[173] Paul. *Dig*. 19.4.1.2 (32 *ad ed*.).
[174] Gai. *Inst*. 3.135; Ulp. *Dig*. 18.1.2.1 (1 *ad sab*.); 9.1 (28 *ad sab*.); Paul. *Dig*. 19.4.1.2 (32 *ad ed*.).
[175] Javol. *Dig*. 18.1.79 (5 *ex post. lab*.), who reports that the Proculiansrefused to acknowledge such a commitment as one which can be enforced with the *actio ex venditi*.

purchase-price included, in addition to a fixed sum of money (*certa pecunia*), also an obligation to renovate another *insula* belonging to the seller.[176] Pomponius also records another case, in which the purchase-price for a plot of land included, in addition to *certa pecunia*, also an obligation to construct a building on the sold land, and to transfer to the seller ownership over a portion (half, in this case) of that building.[177] Potentially there was also the possibility that although a purchase-price was stated in monetary terms in the contract itself, in practice it was entirely given in kind, or, alternatively, by rendering certain rights; however, the nature of such a transaction makes it difficult to produce evidence for it.

Once the requirement of *pretium in numerata pecunia* became unquestionable for *emptio venditio* contracts, it established the centrality of money in exchange transactions. Although the ceremony of *mancipatio* suggests that from archaic times the notion of money—in the sense of a generic means of payment, and probably also an abstract measurement of value—was central to Roman exchange transactions; establishing that in consensual sale a purchase-price must consist of, or be conceptualised in, *numerata pecunia* indicates a further step towards the institutionalisation of money as an abstract formation of thought. Requiring that a purchase-price be stated in *numerata pecunia* encompasses within it the prominence of money as a reckoning device, and signifies that in Roman perception money was in its very essence both a measurer of value (unit of account) and a means of payment (medium of exchange).

[176] Pompon. *Dig*. 19.1.6.1 (9 *ad sab*.).
[177] Pompon. *Dig*. 19.1.6.2 (9 *ad sab*.).

Chapter 5: *Locatio conductio*

Of no lesser importance to Roman economic activity is the contract for letting and hiring: *locatio conductio*. While the previous contract examined, *emptio venditio*, can be paralleled to only one modern type of exchange transaction, namely sale, *locatio conductio* encapsulates within it several modern transactions, including employment together with lease and hire.[1] The aim of this chapter, similar to that of the previous one, is not to view every aspect, or even most aspects, of this contract which is central to Roman economic activity;[2] that would be beyond the capacity of this study or its author. Rather, the chapter focuses on the institutionalised role of money within the context of *locatio conductio*. Yet, such a discussion requires some general notes to be made on both the contract of *locatio conductio* and the scholarship relevant to it.

5.1. Introduction

As a general rule, 'letting and hiring are governed by laws like those of purchase and sale'.[3] By the mid-second century BCE both contracts—*locatio conductio* and *emptio venditio*—had emerged as consensual contracts, based on the joint agreement (*consensus*) of the parties.[4] *Locatio conductio*, like *emptio venditio*, was independent of ceremonial

[1] In hire ('Miete', in German) a right to use the belongings of another is granted, while a lease ('Pacht', in German) also gives right to exploit it; Zimmermann (1996) 351.

[2] Any list of the major publications on this contract should include Costa (1915); Mayer-Maly (1956); Kaufmann (1964); Fiori (1999); Du Plessis (2012a). For a bibliographical survey, see Impallomeni (1996) 651-2; Fiori (1999) 1-10; Du Plessis (2012a) 1-8.

[3] Gai. *Dig*. 19.2.2.pr. (2 *cott*.): '*locatio et conductio proxima est emptioni et venditioni isdemque iuris regulis constitit*'. Also Gai. *Inst*. 3.142.

[4] Gai. *Inst*. 3.135; *Epit*. 2.9.13; Paul. *Dig*. 19.2.1 (34 *ad ed*.); Just. *Inst*. 3.22; 29.4. On the centrality of *consensus* in *emptio venditio* and its effects also on *consensus* in *locatio conductio*, especially in post-classical Roman law, see Fiori (1999) 305-55, esp. 335-47, 363. On the continuous nature of *consensus*

acts of transfer, and was conditioned by no compulsory formulae, either spoken or written.[5] As implied by its dual name, it gave rise to two different (*bonae fidei*) actions: *actiones locati et conducti*.[6] It created bilateral, reciprocal obligations;[7] with one party receiving rights of usage and enjoyment (*uti frui*),[8] while the other received remuneration in the form of *merces*, i.e. payment, be it rent or wages.[9]

Unlike *emptio venditio*, however, in *locatio conductio* the position of the parties varied according to the particularities of each specific contract. As a general rule, the *locator* was the party who "placed" something with the other party, while the *conductor* was the party who "took along" that which was made available to her or him.[10] When the contract was one of lease or hire, the *locator* was the one in whose possession was the property—be it real estate, movables, livestock, or slaves—placing it with the *conductor*,

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in *locatio conductio*, as well as the tacit renewal of the contract, see Ulp. *Dig*. 19.2.14 (71 *ad ed*.); Du Plessis (2012a) 17-18.

[5] Gai. *Inst*. 3.137; *Dig*. 44.7.2.pr.-1 (3 *inst*.); Paul. *Dig*. 44.7.48 (16 *ad plaut*.); 45.1.35.2 (12 *ad sab*.); *CJ* 4.65.9 (Alex. Sev., 234). Written contracts, however, were a common phenomenon, as evident in documentary, legal, and literal sources; De Neeve (1984) 5-6, with reference to both ancient text and modern scholarship; Du Plessis (2012a) 18-21.

[6] Mayer-Maly (1956) 81-9; Kaser (1971) 562-3; Du Plessis (2012a) 22-4. On the *lex locationis*/ *conductionis*, see Du Plessis (2006); (2012a) 19-21.

[7] Gai. *Inst*. 3.137. Roberto Fiori has emphasised the synallagmatic connection *merces-uti frui* as the base on which *locatio conductio* contracts were created; Fiori (1999) 291-7, 361-2; Du Plessis (2006) 81. Almost two decades earlier, Bruce Frier had pointed out that 'to some extent …urban leasehold might better be thought of as the exchange of money for certain services from the landlord, and not just for a place (*res*)'; Frier (1980) 215.

[8] On the right of enjoyment (*frui*), see Ulp. *Dig*. 19.2.9.pr. (32 *ad ed*.); 19.2.15.pr.-2 (32 *ad ed*.), who concerns the system of mutual obligations under the lease of a *fondo*, discussed in detail in Fiori (1999) 80-109; Paul. *Dig*. 19.2.24.4 (34 *ad ed*.); Afric. *Dig*. 19.2.33 (8 *quaest*.); also, see De Neeve (1984) 8-12.

[9] On the word *merces* as signifying remuneration in transactions which involved the use of another's property also in archaic times, see Kaufmann (1964) 136-60; De Neeve (1984) 62-5. For *merces* as signifying 'interest', see Andreau (2008) 205-6, who cites examples for interest referred to as *merces* in cases where loans could be perceived as a service which the lender provided the borrower (a sort of *locatio conductio operarum*, on which, see p. 135, below); as Andreau puts it, *idem* 209: '…c'est plutôt la contrepartie d'un certain service rendu par le prêteur. …*merces*… évoque aussi une rétribution (comme c'est le cas quand il s'agit d'un loyer ou d'un salaire)'. On interest, see Ch. 7, below.

[10] Mayer-Maly (1956) 16-17; Kaufmann (1964) 297-8; Kaser (1971) 563; Zimmermann (1996) 339; Fiori (1999) 11-23, who also points to problems which arise when wishing to use these terms, *locare* and *conducere*, as evidence in reconstructing an archaic *locatio conductio* contract; Du Plessis (2012a) 9. For a survey of the scholarship on the emergence of the Roman consensual *locatio conductio*, see Du Plessis (2012a) 10-12.

the lessee, who in return provided a payment of some sort, i.e. the *merces*. When the contract was one of employment, the *locator* was the employee, who placed her or his work capacity at the disposal of the *contractor*, the employer, who in return provided the *merces*. However, when *locatio conductio* was used for contracting a specific task or job—such as transporting the property of another,[11] or performing some craftwork on materials provided by the other party[12]—the party bound to do the job was the *conductor*, who "carried along" the belongings with regard to which the task was to be performed, while the party commissioning the task and paying the *merces* was in fact the *locator* (contrary to the two previous cases, where the *conductor* rendered the *merces*).[13]

These differences led scholars to consider three "types" of letting and hiring, each with its own "characteristics":[14] *locatio conductio rei*, referring to the letting and hiring of things, be it objects, livestock, places, or rights;[15] *locatio conductio operarum*, referring to the letting and hiring of services, i.e. a sort of an employment contract; and *locatio conductio operis* (*faciendi*), a contract to perform and complete a certain work, job, or task. Although this schematic trichotomy—a legacy of nineteenth-century

[11] Labeo *Dig*. 19.2.60.8 (5 *post. a javol. epit.*), where a muleteer with a carriage is hired to transport freight over land; on land transportation, see Martin (1990); (2002); Du Plessis (2012a) 82-4. Ulp. *Dig*. 19.2.13.1 (32 *ad ed*.), where a ship owner is hired to transfer goods over river; Paul. *Dig*. 14.2.2.pr.-2 (34 *ad ed*.), which mentions a ship's captain hired to transfer cargo by sea (and, see Watson (1965) 121-2); on water transportation, see Rathbone (2003); Gaurier (2004), *non vidi*; Aubert (2007); Du Plessis (2012a) 84-92.

[12] Pompon. *Dig*. 18.1.20 (9 *ad sab*.); on which, see Fiori (1999) 191-206. For other specific examples, see Gai. *Dig*. 4.9.5.pr. (5 *ad ed. prov*.); *Inst.* 3.143; both with regard to the tasks given to fullers and tailors (cleaning and sewing, respectively); on which, see Du Plessis (2012a) 55-67; Alf. *Dig*. 19.2.31 (5 *a paul. epit*.), with regard to craftsmen who receive either silver to make vessels, or gold to make rings; Gai. *Inst.* 3.147, with regard to a goldsmith who received gold to make rings; on which, see Fiori (1999) 206-14.

[13] De Neeve (1984) 4-5; Zimmermann (1996) 338-9.

[14] Mayer-Maly (1956) 22-41; Kaser (1971) 563-70; Zimmermann (1996) 338-408; Fiori (1999) 3-7; Du Plessis (2012a) 2.

[15] This "type" of *locatio conductio* is probably the one to have received the most attention by both Roman jurists—as acknowledged also by Du Plessis (2012a) 2—, as well as modern scholars; e.g. Costa (1915); Frier (1980); Martin (1989); Kehoe (1997); Du Plessis (2012a) 121-89.

dogmatic legal thinking[16]—is well established in modern discussion,[17] a clear tripartition is probably a development later to Classical Roman Law.[18] Roman jurists appear to have regarded all different *species* of *locatio conductio* under one and the same contract; applying to all of them the same jurisprudential procedures and the same legal aid of either the *actio conducti* or the *actio locati*.[19] This "gap"—between the unitary nature of Roman jurisprudential procedure on the one hand, and scholars' ability identify "types" of *locatio conductio* on the other hand—set modern discussion on this contract on a polarising route. For more than a century Romanistic tradition has been engaged with the question of the nature of *locatio conductio*; with some scholars stressing the unity of the Roman contract,[20] others advocating its trichotomous nature.[21] The division between the two approaches, however, is not a straightforward one. Scholars who stress the unitary nature of the classical *locatio conductio* often recognise some awareness on the part of Roman jurists to the existence of various "types" of *locatio conductio*;[22] while advocates

[16] Du Plessis (2012a) 1-3, 5; Fiori (1999) 305-52, who details the proceedings of this development from the seventeenth century onwards, tracing its origin back to the Middle Ages.

[17] Advocated already in Mommsen (1885) 264-8. Mayer-Maly (1956), which is one of the most influential works on *locatio conductio* in the twentieth century, follows a trichotomous thematic outline. The trichotomy of *locatio conductio* is most clearly advocated in Alzon (1963); (1966); Lewis (1973). For a short overview of how the notion of the contract's trichotomy developed, see Fiori (1999) 5-7.

[18] Fiori (1999) 2; Du Plessis (2012a) 12-3. Contra Lewis (1973); followed by Zimmermann (1996) 338-42, who argues that the trichotomy implicitly existed in the minds of classical Roman jurists. However, since no classical Roman legal text questions the procedural unity of *locatio conductio*, most scholars agree that there is no explicit recognition on the part of Roman jurists in the contract's trichotomous nature; a point stressed also by Mayer-Maly (1956) 17.

[19] De Zulueta (1953) 170-2; Mayer-Maly (1956) 17-19; Kaser (1971) 563-4, with reference to bibliography in n. 2; De Neeve (1984) 4-5; Fiori (1999) 1-10; Du Plessis (2012a) 12-3.

[20] E.g. Amirante (1959).

[21] E.g. Mayer-Maly (1956); Alzon (1963); (1966); Kaufmann (1964) 179-232; Lewis (1973); Zimmermann (1996) 338-412.

[22] E.g. Kaser (1971) 563-71, esp. 564; Molnàr (1982) 127.

of the trichotomy often acknowledge the basically unifying approach of classical Roman law.[23]

Ground-breaking work on this topic was published a decade and a half ago by Roberto Fiori,[24] who proposed to abandon the long enduring polarisation of unity vs. trichotomy, in favour of a model which stresses (what he refers to as) the synallagmatic connection between *merces* and *uti frui* embedded within the contract of *locatio conductio*.[25] Modern concentration on the three "types" of *locatio conductio*, argues Fiori, should be attributed to a displacement of the centre of attention in discussions on this contract. According to Fiori, in a centuries-long process,[26] attention had shifted from the Roman chief focus, namely the synallagmatic obligation created by *locatio conductio*, i.e. the *merces-uti frui* connection,[27] to concentrating on the "object" of the contract (i.e. *res*, *opera*, *opus*). Fiori depicts a process by which the Roman concepts of *persona* and *res* were transformed in scholarly discussion on this contract into abstract "geometric" notions of "subject" and "object", respectively;[28] with the consequence of dedicating much scholarly effort to pinning down differences in the duties and responsibilities of the parties, as well as the relation between them, in each of the three "types" of *locatio conductio*. Roman jurists, Fiori claims, were less interested in divisions based on differences in the practical details of each individual transaction. Instead, their treatment

[23] E.g. Mayer-Maly (1956) 17-9; Impallomeni (1996) 652-4.
[24] Fiori (1999), who follows a chronological outline, looks at the concerns of lawyers from Republican times to post-classical Roman law, up to the Romanistic tradition. For reviews, see Guarino (1999); Piro (2001); Mayer-Maly (2002).
[25] Fiori (1999) 361-6.
[26] *Idem* 315-29.
[27] *Idem* 286-97.
[28] *Idem* 329-35, 362-4.

of this contract placed at the centre of attention the essential reciprocal obligation created by *locatio conductio*, namely the synallagmatic connection between *merces* and *uti frui*.

Fiori's publication, to use Du Plessis' words, 'has destabilised much of the traditional narrative surrounding the contract'.[29] This chapter follows Fiori's lead, which emphasises the *merces-uti frui* relation innate in the Roman contract of *locatio conductio*. Therefore, discussion is not divided into the different "types" of *locatio conductio*; that is, texts concerning lease and hire (*locatio conductio rei*) are considered alongside those on employment, be it hire of services (*locatio conductio operarum*) or a contract to perform specific task (*locatio conductio operis*). Such a unifying approach fits well with the classical Roman jurists' treatment of this contract. It also reconciles with the wider complexity-oriented perspective advertised in this study; a perspective which stresses the multi-casual links created within systems, and the ability of the entities operating within it to generate new patterns of activity, self-adjusting both themselves and the system(s) in an enduring process of evolvement. Defining the Roman *locatio conductio* as a contract which in its essence created a synallagmatic connection between *uti frui* and *merces* emphasises both the flexibility of this contract, in the sense of enabling individuals to self-adjust it to their own needs, and the multiformity of the reciprocal relations established by *locatio conductio*; a multiformity which contains a potential for generating new patterns of activity. Lastly, stressing the centrality of the *merces-uti frui* connection gives further support to the focus given below to the definition of *merces*, and, in particular, the question of its pecuniary nature.

[29] Du Plessis (2012a) 5.

5.2. Components of the Roman Contract of Lease and Hire

In Roman consensual sale (*emptio venditio*) the contractual obligation was created by the parties' joint agreement (*consensus*) on two issues: *merx* and *pretium*, i.e. "what" and "for how much". In principle, *locatio conductio* presents a similar situation, in which a bilateral contractual obligation is created by the *consensus* of the parties regarding two issues: "what" and "for how much". The "what", as stressed by Fiori, is the rendering of rights of use and enjoyment, i.e. the *uti frui* given with regard to the "object" of the contract; the "for how much" is the *merces*, the remuneration given in return.[30] Thus, within the reciprocal obligation created by *locatio conductio*, *uti frui* may be paralleled to *merx* in *emptio venditio*, while *merces* may be paralleled to *pretium*. Having stated this analogy, let us look at the details of *locatio conductio* more closely.

The "what", the so-called "object" of the contract, that is the thing with respect to which *uti frui* was granted, had to be fixed in the contract itself; and could refer to both tangibles (e.g. real estate, movable merchandise, livestock, or slaves) and intangibles (e.g. rights, services, or a task to be performed).[31] As the focus of this study is money, the different things which could be and were given by way of *locatio conductio* to be used and enjoyed are of less interest to the present discussion.[32] Suffice it here to state that as a

[30] But see Frier (1980) 60-3, who states that in *locatio conductio* (of urban dwellings) *consensus* had to be reached on four issues: (1) a fixed *merces*; (2) the term of lease, i.e. the period of time for which rights of use (habitation, in this case) were given; (3) the dwelling to be leased; and (4) payment periods and conditions of payment. Du Plessis (2012b) 134-5, who follows Frier (1980), and argues for an agreement on three issues: the object of the lease, the term, and the amount of rent. However, Frier's (2) and (3), i.e. the object and the term of the lease, are in fact two aspects of defining the "what"; while Frier's (4) could be viewed as an operational clause within (1), both of which relate to "for how much".

[31] E.g. Lab *Dig*. 19.2.60.6; 9 (5 *post*. a *javol*. *epit*.); Paul *Dig*. 19.2.55.pr. (2 *sent*.); all referring to a lease of *horrea* (barns and storage space); Gai. *Inst*. 3.145, on leasing land belonging to municipalities (*praediis municipum*); Alf. *Dig*. 19.2.30.2 (3 a *paul*. *epit*.), on hiring livestock; Gai. *Inst*. 3.146, on hiring slaves.

[32] On the different "objects" given by way of *locatio conductio* to be used and enjoyed, see Mayer-Maly (1956) 113-27; Molnàr (1982); Du Plessis (2012a).

general rule money (be it *pecunia*, *numerata pecunia*, or *nummi*) was not one of them. Giving money to another for her or his use and enjoyment usually rendered the transaction to be a loan of some sort.[33] More significant for the current discussion is the counter-obligation of paying *merces*.[34] This had to be specified and agreed in order for *locatio conductio* to come into existence.[35] Paying *merces* distinguished *locatio conductio* transactions from *commodatum*,[36] *mandatum*,[37] and *depositum*.[38] Generally, *merces* could be whatever the parties agreed upon;[39] however, like *pretium* in contracts of sale, it had several restrictions.

First, although the contract of *locatio conductio* may be agreed under condition,[40] *merces* itself had to be certain (*certa*).[41] Whether or not *merces* could be left to the decision of a third party seems still to have been under debate in the mid-second century

[33] On which, see Chs. 6 and 7 below.

[34] On *merces* before the second century BCE, see Kaufmann (1964) 136-60; De Neeve (1984) 63-5.

[35] Gai. *Inst*. 3.142; 162, who states that if *merces* is fixed for a certain task, the contract is *locatio conductio*, and not *mandatum* (also, see Du Plessis (2012a) 56); Gai. *Dig*. 19.2.2.pr. (2 *cott*.); Ulp. *Dig*. 19.5.19.1 (31 *ad ed*.); Pompon. *Dig*. 19.2.52 (31 *ad quint. muc*.), who states that when the *locator* (a lessor, in this case) understood the agreed *merces* to be higher than that understood by the *conductor* (the lessee), the contract was void; but when it was the other way around, the *conductor* agreeing to a higher *merces* than that understood by the *locator*, the contract was valid. Also, Just. *Inst*. 3.24.pr..

[36] Ulp. *Dig*. 13.6.5.12 (28 *ad ed*.); on which, see Fiori (1999) 276-7. On *commodatum*, see Ch. 6, pp. 181-2, below.

[37] Gai. *Inst*. 3.162; *Dig*. 19.5.22 (10 *ad ed. prov*.); Paul. *Dig*. 17.1.1.4 (32 *ad ed*.); Ulp. *Dig*. 14.1.1.18 (28 *ad ed*.), who says that a ship-owner may sue a captain (*magister navis*) *ex locato* '*si mercede operam ei exhibet, aut si gratuitam mandati agere potest*'; and similarly, Paul. *Dig*. 14.1.5.pr. (29 *ad ed*.). Also, see Fiori (1999) 263-9.

[38] Papin. *Dig*. 24.1.52.pr. (10 *quaest*.); Ulp. *Dig*. 16.3.1.8 (30 *ad ed*.); 4.9.3.1 (14 *ad ed*.). Also, see Fiori (1999) 270-5; and Ch. 8, below.

[39] We have seen this principle for *pretium* in *emptio venditio*; Ulp. (Pompon.) *Dig*. 4.4.16.4 (11 *ad ed*.). Paul. *Dig*. 19.2.22.3 (34 *ad ed*.), who gives this principle for both *emptio venditio* and *locatio conductio*; and, several decades after the period here under investigation, also Herm. *Dig*. 19.2.23 (2 *iur. epit*.).

[40] Paul. *Dig*. 19.2.20.pr.; 2 (34 *ad ed*.).

[41] Gai. *Inst*. 3.142; 205; Labeo *Dig*. 19.2.60.4 (5 *post. a javol. epit*.); Papin. *Dig*. 24.1.52.pr. (10 *quaest*.); Scaev. *Dig*. 19.2.61.1 (7 *dig*.), who speaks of *certa merces* in a case of a lease to transport cargo by sea; Javol. *Dig*. 19.2.21 (11 *epist*.); 19.2.51.1 (11 *epist*.); both Javolenus' excerpts—placed by Lenel (1889) vol. 1, 294, only three section appart—refer to *certa merces*; on the latter exerpt, see Martin (1989) 106-8; and discussion on p. 166, below. On using *certo pretio* when dealing with *locatio conductio*, see Afric. *Dig*. 19.2.35.1 (8 *quaest*.); Ulp. *Dig*. 19.2.19.3 (32 *ad ed*.); and discussion on these two excerpts on pp. 153-4, below.

CE. Gaius raises this question in his *Institutiones*, but leaves it unanswered.[42] In an excerpt from his *Ad Edictum Provinciale* it is stated that only when the identity of a third party is specified can *locatio conductio* be created, albeit conditionally; the condition being that the said person would indeed set a value.[43] This excerpt, however, is widely believed to be a sixth-century interpolation,[44] especially in view of Justinian's rescript from 530,[45] which—while recalling disagreement among *cultores antiquae prudentiae*, though not specifying its details—attributes to Justinian a ruling precisely the same as the one allegedly offered by Gaius in *Dig*. 19.2.25.pr. (10 *ad ed. prov*.). Since in Gaius' time the issue of leaving the value of remuneration to the decision of a third party was still under debate for *pretium* in contracts of sale,[46] it is doubtful whether a resolution could have been reached on this matter in the case of *merces*, but not in that of *pretium*. The dispute, so it seems, was settled eventually in the sixth century by Justinian, who gave the same ruling for both *pretium* in contracts of sale,[47] and *merces* in contracts of lease,[48] and established that when the value of remuneration (be it *pretium* or *merces*) was left to the decision of a specified third party, a valid albeit conditional contract (*emptio venditio* and *locatio conductio*, respectively) was created.

[42] Gai. *Inst*. 3.143; Fiori (1999) 241-8.
[43] Gai. *Dig*. 19.2.25.pr. (10 *ad ed. prov*.).
[44] De Zulueta (1953) 173; Mayer-Maly (1956) 63-69, 84-8; Kaser (1971) 490, n. 23; (1975) 338; Johnston (1989) 156-7; Fiori (1999) 189-90, 242-4; Leesen (2010) 208.
[45] *CJ* 4.38.15 (Just., 530); Just. *Inst*. 3.23.1.
[46] Gai. *Inst*. 3.140, where it is said that opinions divided; though, interestingly enough, the division described does not follow that of the legal schools (Sabinians and Proculians); and, see Leesen (2010) 205-11, for why this dispute was not a school controversy, but a disagreement between individual jurists.
[47] *CJ* 4.38.15.2 (Just., 530); Just. *Inst*. 3.23.pr.-1; Leesen (2010) 211-4.
[48] Just. *Inst*. 3.23.1 *ad finem*; 3.24.1.

Second, similarly to *pretium* in contract of sale, *merces*, too, had to be real (*vera*);[49] that is, not symbolic, to consist of more than *nummus unus*, as this would have rendered the transaction a *donatio* rather than a lease.[50] Following it, *gratis habitare*, the granting of free habitation, did not properly fall under *locatio conductio* since no *merces* was given.[51] However, documentary evidence suggests that this constraint was not strictly upheld. In a papyrus from Tebtunis dated to 145/6,[52] which records a *hypomnema* (*ὑπόμνημα*) containing an application for leasing two *arouras* of state land, presumably of inferior quality,[53] previously cultivated by the applicant's father (ll. 6-9),[54] the rent quoted for the lease is only 1 *drachma* (ll. 15-16). The extremely low rent, however, did not render the contract as void. At the end of the document appear the instructions of the imperial official, the royal scribe (*basilikogrammateus*), to the village scribe (*komogrammateus*) of Tebtunis authorising the request (ll. 19-25). The wording of the request, as well as that of the *basilikogrammateus*, suggest that the document deals with a common procedure.[55] The reason for the extremely low rent may be found in the title given to the land leased by both the applicant (l. 5, *βο]ύλομαι ἐναφει[-*), and the imperial official (l. 20, *β]ιβλιδίου περὶ ἐναφει(μένης) τὸ ἴσον*). Presumably, *ἐναφει[-* signified an

[49] Ulp. *Dig*. 41.2.10.2 (69 *ad ed*.), who, while dealing with *locatio conductio*, speaks of *vero pretio* and not *merces*; Gai. *Dig*. 19.5.22 (10 *ad ed. prov*.), who speaks of *vero mercede*; Fiori (1999) 177-9, 277-9.
[50] Paul. *Dig*. 19.2.20.1 (34 *ad ed*.); Ulp. *Dig*. 19.2.46 (69 *ad ed*.); 41.2.10.2 (69 *ad ed*.); Mayer-Maly (1956) 128-9; Fiori (1999) 279-81.
[51] Pompon. *Dig*. 39.5.9.pr. (33 *ad sab*.); Papin. *Dig*. 39.5.27 (29 *quaest*.); Fiori (1999) 280-1. On the question whether *gratis habitare* could be considered *commodatum*, see Ulp. *Dig*. 13.6.1.1 (28 *ad ed*.); Zimmermann (1996) 191.
[52] *P.Tebt*. II 325 (Tebtunis, 145/6)
[53] The land's category is unspecified; Johnson (1936) 111; Kruse (2002) 384-7.
[54] Suggesting it was a case of renewing an expired lease; Kruse (2002) 384-5.
[55] Kruse (2002) 387-8.

official category of land (*γῆ ἐναφειμένη*) of very low quality, hence low profitability.[56] The low sum quoted was perceived as real rent perhaps because the state was in a position slightly to bend legal requirements. Alternatively, it could be that symbolic rent was accepted as real simply because it was perceived as consistent with an "economic" logic. That is, the extremely low rent suited the inferior quality of the land, thereby enabling the lessor (i.e. the state) to find tenants which would keep the land cultivated, while indicating that it was still a lease, hence keeping in force taxes and other obligations inflicted on tenants, which augmented the low rent agreed, hence led to higher reicipts.

While the example of *P.Tebt*. II 325 concerns land owned by the state outside of Italy, where leases may be subject to laws which were not strictly speaking Roman, another document from Italy shows that symbolic rents were agreed also within the context of Roman civil law. The document predates the period here under investigation, but there is no reason to assume that similar transactions did not occur also in the second century. It records a lease with a symbolic rent, in which the involvement of official authorities is considerably of less significance.[57] It concerns a lease of space in a warehouse (*horreum*)[58] recorded on a tablet from the Murecine archive of the *Sulpicii*, a

[56] This was suggested already by the editors of the papyrus; Grenfell and Hunt (1907) 134. Kruse (2002) 582-97, who convincingly argued that *γῆ ἐναφειμένη* was an official land cateogory.

[57] In this case, although the municipality was the owner of the space leased, it was not an active party in the network of transactions described below; both first and second lessees (the debtor and the creditor, respectively) entered contracts with a *horrearius*, which had rented the entire complex from the municipality and then sublet it.

[58] On *horrea* and their lease, see Labeo *Dig*. 19.2.60.6; 9 (5 *post*. a *javol*. *epit*.); Scaev. *Dig*. 20.4.21.1 (27 *dig*.); Paul. *Dig*. 14.5.8. (1 *decr*.); 19.2.56 (1 *off. praef. vig*.), and see Frier (1980) 133, for the possibility of interpolation; Ulp. *Dig*. 5.1.19.2 (60 *ad ed*.); 9.3.5.3 (24 *ad ed*.); 10.4.5.pr. (23 *ad ed*.); 20.2.3 (73 *ad ed*.); 36.4.5.22 (52 *ad ed*.); *FIRA* III 145 (found in *Porta Salaria* in the north of Rome, 96-98), recording the so-called *lex horreorum Caesarius*; *FIRA* III 146 (found in Rome on the Aventine). Also, see Rickman (1971) esp. 194-210; Du Plessis (2006) 90-92; (2012a) 173-89; (2012b) 145-9.

family of bankers from Puteoli near Pompeii.[59] The details of the transaction are as follows.[60] A *horrearius,* Gaius Novius Cypaerus, who rented an entire warehouse from the city of Puteoli, had sublet space in it to a certain Gaius Novius Eunus, who stored grain there. The said Eunus borrowed money from Tiberius Iulius Evenus,[61] who requested real security to guarantee the repayment of the loan.[62] This was given in the form of the grain stored in the public granary. The moneylender then entered a contract of *locatio conductio* to lease the space in the warehouse where the grain was stored, in order to ensure possession of the pledged grain, more precisely, in order to avoid the tacit hypothec of the *lessor* if the debtor did not pay.[63] What is interesting for the current discussion is that the sum stated as rent to be paid by the moneylender is only *sestertiis singulis nummis* per month.[64] Though such low rent legally should have rendered the contract as void,[65] the text explicitly speaks of '*scripsi… me locasse*', suggesting that—to use the words of Du Plessis—'legal practice may well have diverged from legal

[59] On the Murecine archive see, Camodeca (1992); (1999); (2003); Jones (2006); Terpstra (2013), *non vidi*.

[60] *TPSul*. 45 (Puteoli, 37) (=*TPN* 86); Camodeca (1999) 122: '*C(aio) Caesare Germanico Augusto Ti(berio) Claudio Nerone Germanico co(n)s(ulibus), sextum Nonas Iulias. Diognetus C(aii) Novi Cypaeri servus scripsi iussu Cypaeri domini mei coram ipso me locasse Hesycho Ti(berii) Iuli Augusti l(iberti) Eueni ser(vo) horreum duodecimum in horreis Bassianis publicis Puteolanorum mediis, in quo repositum est triticum Alexandrinum, quod pignori accepit hac die a C(aio) Novio Euno, item in iisdem horreis imis intercolumnia, ubi repositos habet saccos leguminum ducentos, quos pignori accepit ab eodem Euno. Ex Kal(endis) Iuliis in menses singulos sestertiis singulis n[u]m(mis). Act(um) P[u]t(eolis)*'.

[61] Perhaps his patron; Lintott (2002) 557; Jones (2006) 96.

[62] *TPSul*. 51-52 (Puteoli, 37).

[63] The whole network of transactions of which this contract was part, is analysed in Lintott (2002) 556-8. A similar formation of transactions—which includes a *horrearius*' tacit hypothec over goods stored in a warehouse, and a loan given by a third party to the owner of these goods subject to rendering it as pledge—is reported in Scaev. *Dig*. 20.4.21.1 (27 *dig*.), where the goods in question are marble slabs; Du Plessis (2012a) 183-4, who postulates that in this case, too, the lender entred a *locatio conductio* to secure his possession over the pledged marble. On a landlord's hypothec over the tenant's goods, see Du Plessis (2012b), esp. 144-7, on implied hypothec.

[64] To be contrasted with the hundred HS a month (*in mensibus singulis sestetis centenis nummis*), reported in another lease of a warehouse preserved in the same archive; *TPSul*. 46 (Puteoli, 40).

[65] Jones (2006) 95-6.

doctrine'.[66] Keeping this statement in mind, we move now to consider the pecuniary nature of *merces*.

5.3. *Uti frui* as *merces*? Exchanging *res utendae fruendae*

Concerning the pecuniary requirement, which by the end of the third century became binding for *pretium* in contracts of sale, there is a debate as to when precisely it became compulsory also for *merces* in *locatio conductio*.[67] Clearly by the time of Justinian *merces* (*μισθός*) in *locatio conductio* was paralleled to *pretium* in *emptio venditio*; hence, by analogy, exchanging rights of use and enjoyment did not fall under the category of a lease,[68] with the underlying supposition that *merces* was expected to consist of a pecuniary element. But what precisely does a "pecuniary element" refer to? In Justinian's *Institutiones*, where the analogy is made between *pretium* and *merces*, the text simply states that exchanging rights of use and enjoyment was not a lease. Neither *pecunia* nor *numerata pecunia* are mentioned. In fact, the text does not even consider remuneration in kind, but speaks only of remuneration in the form of giving *res* to be used and enjoyed (*uti frui*). Yet, Theophilus, one of the co-authors of Justinian's *Institutiones*, distinctly states in his *Paraphrasis Institutionum* that *merces* is to be 'in

[66] Du Plessis (2012a) 178-83, esp. 182.
[67] Mayer-Maly (1956) 129-135; Zimmermann (1996) 354-5.
[68] Just. *Inst.* 3.24.2: '*Praeterea sicut vulgo quaerebatur, an permutatis rebus emptio et venditio contrahitur: ita quaeri solebat de locatione et conductione, si forte rem aliquam tibi utendam sive fruendam quis dederit et invicem a te aliam utendam sive fruendam acceperit. et placuit, non esse locationem et conductionem, sed proprium genus esse contractus. veluti si, cum unum quis bovem haberet et vicinus eius unum, placuerit inter eos, ut per denos dies invicem boves commodarent, ut opus facerent, et apud alterum bos periit: neque locati vel conducti neque commodati competit actio, quia non fuit gratuitum commodatum, verum praescriptis verbis agendum est*'. See Mayer-Maly (1956) 129-30.

money' (*ἐν ἀργυρίῳ*);[69] and in later Byzantine law it is explicitly required that *merces* (like *pretium*) be *in numerata pecunia* (*ἐν ἀργυρίοις ὁρισθῆναι*).[70] Was it a post-classical requirement,[71] or was it already obligatory in Classical Roman Law?[72]

The discussion below encompasses two queries. One refers to the question of interchanging *res utendae fruendae*, trying to establish when it was decided that reciprocal exchange of rights of use and enjoyment could not fall under the category of *locatio conductio*. The other issue concerns the connection drawn by classical Roman jurists between *merces* on the one hand, and *pecunia* and *numerata pecunia* on the other hand; and the implications it may hold for our understanding of the Romans' notion of 'money'.

5.3.1. Gaius and Africanus

Again, we start the discussion with Gaius's *Institutiones*, which states:

> Item si rem tibi utendam dederim et inuicem aliam rem utendam acceperim, quaeritur, an locatio et conductio contrahatur.[73]

According to Gaius, it is questionable (*quaeritur*) whether there is a contract of lease when an object is lent for another (*res utendae fruendae*); however, Gaius provides

[69] Theoph. *Paraphr*. 3.24.2: '*…διὰ τὸ μὴ cérton ἐνταῦθα ἐν ἀργυρίῳ μίσθωμα…*'; (the Latin transcription appears in Ferrini (1897) 358.

[70] A *scholion* on the late ninth-century *Basilica* states explicitly that *merces* is to be in *numerata pecunia*; *Sch. ad Bas.* 20.1.2.1: '*Δεῖ δὲ ἐν ἀργυρίοις ὁρισθῆναι τὸν μιστόν, εἰ γὰρ μὴ ἐν ἀργρίοις ἐγένετο, οὐκ ἦν μίσθωις, ὡς ἔστι μαθεῖν καὶ ἀλλαχόθεν, μάλιστα δὲ ἐξ ὧν ὁ Οὐλπιανὸς ἐν τῷ βιβ. ις. τιτ. γ. διγ. ά. θεμ. ή. φησίν*'. Also, see Mayer-Maly (1956) 129-30.

[71] As argued by Ferrini (1929, [1893]); followed by Cuq (1928) 483-4; and later supported by Longo (1953); also, see Misera (1977) 271-3, who argues that *merces* in money was made obligatory by the end of the classical period of Roman law.

[72] As argued by Longo (1912); later supported by Thomas (1958); also, see Kaser (1971) 566.

[73] Gai. *Inst*. 3.144: 'Again, if I lend you something for your use and receive in turn another thing for my use, it is a question whether a contract of hire is formed'. Translation is that of De Zulueta (1946) 199, who I find more appropriate here than that of Gordon and Robinson (1988) 347.

neither the details of the debate, nor his own opinion.[74] Centuries later Justinian confirms that this issue had previously been the cause of disagreement among jurists.[75] What were the sides in the debate? It is likely that the *quaeritur* in Gai. *Inst*. 3.144 should be put on the same level as the *quaeritur* in Gai. *Inst*. 3.141.[76] The latter, as seen in the previous chapter, refers to the school controversy revolving around the issue of the pecuniary nature of *pretium* in contracts of sale (and the division between *emptio venditio* and *permutatio*); hence, it is not unjustified to look at the former also in terms of the Sabinian-Proculian rivalry.[77] Seen in this light, one may reconstruct the opinions which made this issue *quaeritur* by paralleling it to the *pretium in numerata pecunia* controversy. In the latter the Sabinians were of the opinion that a mutual exchange of goods can be classified under *emptio venditio*, while the Proculians rejected this view. Thus, by analogy, the Sabinians presumably allowed for a mutual exchange of *res utendae fruendae* to be classified under *locatio conductio*, while the Proculians presumably did not.[78]

The fact that Gaius mentions a dispute, but offers no verdict, fits his self-ascription to the Sabinian school. Gaius, an eminent exponent of clear legal categorisations, can be expected to have imposed the same teaching concerning a pecuniary remuneration for both *pretium* in *emptio venditio*, and *merces* in *locatio coductio*. Hypothetically, it could be that he intentionally evaded an explicit answer, to

[74] Contra Thomas (1958), who believes that Gaius' implicit answer to this question, was negative.
[75] Just. *Inst*. 3.24.2.
[76] Thomas (1958); Misera (1977) 271; Fiori (1999) 229. This parallel is made also by the emperor Justinian; Just. *Inst*. 3.24.2.
[77] Fiori (1999) 183-249.
[78] Misera (1977) 271; Fiori (1999) 228-30. However, note that also Fiori stresses that while the Proculians (presumably) 'affermavano potesse aversi *locatio conductio* solo quando vi fosse stata una *merces*', this 'forse, non necessariamente *in pecunia numerata*'; *idem* 229.

avoid possible contradiction with the views of his Sabinian teachers.[79] However, the fact that he poses the question to begin with suggests that in his days the issue of exchanging *res utendae fruendae*—like that of *pretium in numerata pecunia*—was still under legal debate; therefore leading to the postulation that pecuniary *merces*, though perhaps customary in his time, was not yet compulsory.[80]

From the writings of Gaius' contemporary, Apuleius of Madaura, it appears that in second-century North Africa the interchange of services, such as slaves' labour, was an ordinary practice.[81] Could such an interchange be classified under *locatio conductio*? More generally, could any interchange in which rights of use and enjoyment were rendered in return for (some) other rights of use and enjoyment, rather than for a payment, either pecuniary or in kind, be classified as a lease?

Precisely this question is asked by the second-century jurist Africanus:

> Cum fundum communem habuimus et inter nos convenit, ut alternis annis certo pretio eum conductum haberemus, tu, cum tuus annus exiturus esset, consulto fructum insequentis anni corrupisti. Agam tecum duabus actionibus, una ex conducto, altera ex locato: locati enim iudicio mea pars propria, conducti autem actione tua dumtaxat propria in iudicium venient. Deinde ita notat: nonne quod ad meam partem attinebit, communi dividundo praestabitur a te mihi damnum? Recte quidem notat, sed tamen etiam servi sententiam veram esse puto, cum eo scilicet, ut, cum alterutra actione rem servaverim, altera perematur. Quod ipsum simplicius ita quaeremus, si proponatur inter duos, qui singulos proprios fundos haberent, convenisse, ut alter alterius ita conductum haberent, ut fructus mercedis nomine pensaretur.[82]

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[79] As argued by Thomas (1958), who analyses the whole section of Gai. *Inst*. 3.139-47, and argues that the overall analogy made between *emptio venditio* and *locatio conductio* should suffice to conclude that the monetary requirement of *pretium* ought to be applied also to *merces*.

[80] Mayer-Maly (1956) 130; Misera (1977) 271, who argues that 'Die strenge Auffassung [i.e. that both *pretium* and *merces* had to be stated in pecuniary terms] hat sich am Ende der Klassik anscheinend durchgesetzt', thereby allowing this issue to still be under debate in the time of Gaius.

[81] Apul. *Apol.* 17.1: '*Ego adeo seruosne* tu *habeas ad agrum colendum an ipse mutuarias operas cum uicinis tuis cambies, neque scio neque laboro*'. Also, see Mayer-Maly (1956) 131.

[82] Afric. *Dig*. 19.2.35.1 (8 *quaest*.): 'We were co-owners of a farm, and we agreed to hold it under hire in alternate years for a fixed price; when your year was about to end, you deliberately destroyed the crops

The excerpt presents a case in which co-owners separately cultivate their land in rotation for a fixed rent (*certo pretio*).[83] Africanus starts by giving the opinion of the first-century BCE jurist Servius (*agam tecum … venient*), which considered it to be a *locatio conductio*, granting the offended party the *actio locati* in respect of his own share of the land, and the *actio conducti* in respect of the share belonging to the offender. Africanus then reports the opinion of his teacher Julian (*deinde ita notat… damnum*),[84] according to which in this case the *actio communi dividundo* could also be applied. Africanus himself accepts the validity of Julian's view, but holds Servius' solution to be more appropriate (*recte quidem… perematur*). At any rate, the offended party needs to choose one course of action, either the *actio communi dividundo*, or the *actiones loacti et conducti*.[85] At the end of the excerpt a second case is reported (*quod ipsum… pensaretur*), in which separate owners agree to cultivate each other's land in rotation with the yield acting as rent (*ut fructus mercedis nomine pensaretur*), and for which Africanus applies similar logic.

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for the next year. I may sue you through two actions, one on lease and one on hire; in the action on lease, my own share will be given judicial consideration; in the action on hire, your own share. He [Julian] then remarks: "In an action for dividing common property, will you not be held responsible to me for the loss as far as my share is concerned?" His remark is apt, but I think the opinion of Servius is also correct, namely that when I preserve my property by one of these actions, the other action with him is obviously extinguished. We ask the same question in simpler form if the hypothetical involves two men, both owning their own farms, who agree that each take the farm of the other on hire with the crops to be counted as rent'. This excerpt received considerable attention in modern scholarship; Mayer-Maly (1956) 132-5; Thomas (1971); Misera (1977) esp. 277-8; Fiori (1999) 230-6.

[83] The principle of using or enjoying property in rotation (*alternis annis*) appears also elsewhere; Ulp. *Dig*. 10.2.16.2 (19 *ad ed*.), concerning *ususfructus*; 10.3.7.10 (20 *ad ed*.), concerning the *actio communi dividundo*; both of which are discussed in Misera (1977) 268-9; also, Ulp. *Dig*. 10.3.23 (32 *ad ed*.), discussed on pp. 152-3, below.

[84] Berger (1953) 522.

[85] Mayer-Maly (1956) 133; Thomas (1971) 85-6.

Although claims for interpolations are not lacking,[86] the view adopted here is that of Roberto Fiori, who argues—relying on Lenel's reconstruction[87]—that this excerpt consists of actual *responsa* given by Africanus on two concrete cases.[88] Fiori points out two issues in which the two cases differed. One concerns the question of ownership: while the first case deals with co-owners, in the second case ownership is held separately by the parties. The other concerns the issue of remuneration: while in the first case the parties agreed to a *certum pretium*, in the second case agricultural yield is to be accounted for *merces*.[89] Only the latter dissimilarity is of interest to the present topic of study; and it requires clarification concerning two phrases: '*certo pretio*' which appears in the first case, and '*ut fructus mercedis nomine pensaretur*' which appears in the second case; I start by considering the former.

Fiori, and before him Karl-Heinz Misera, convincingly reject claims that *certo pretio* is an interpolation.[90] Fiori understands this phrase as indicating that the remuneration agreed between the co-owners was necessarily one given in money;[91] basing his argument on the view that throughout classical Roman law *pretium*, unlike

[86] Concerning Africanus' own view ('*recte quidem notat… altera perematur*'), see Mayer-Maly (1956) 132, who accepts this sentence as genuinely Africanus'; contra Thomas (1971) 86, who argues otherwise. Concerning the last part of this excerpt ('*quod ipsum simplicius… pensaretur*'), see Mayer-Maly (1956) 132, who attributes it to a 'Bearbeiter'; Thomas (1958) 194; (1971) 86, who believes it to be a later addition, because the text moves from first and second bodies (*eo, tu, puto*) to the plural (*quaeremus*) and then an objective posing of the case (*proponatur*). See Fiori (1999) 233, n. 163, with referenced to further bibliography.

[87] As pointed out by Fiori, this excerpt should be seen within the wider context of *Dig*. 19.2.33-35.1, in which Africanus refers to the first-century BCE jurist Servius and discusses different aspects of *locatio conductio* of *insulae* and *fondi*; Fiori (1999) 230-1, esp. n. 156 with references to Lenel (1889); and (1931) 43, *non vidi*.

[88] Fiori (1999) 233-4; also Misera (1977) 273-282, who rejects claims for interpolation, but, unlike Fiori, prefers viewing these cases as 'Schulbeispiel' (p. 277).

[89] Fiori (1999) 232.

[90] Fiori (1999) 233-4; Misera (1977) 281-2.

[91] Fiori (1999) 233-4, who uses 'in denaro' and 'in *pecunia*'.

merces, exclusively referred to a pecuniary value.[92] His analysis stresses the *pretium* component of *certo pretio* and contrasts it with *merces*, with the underlying assumption that both were technical terms which exclusively referred to *emptio venditio* and *locatio conductio*, respectively. However, Roman jurists perhaps were not so strict in separating *merces* from *pretium*; Africanus is not the only one to use *pretium* in the context of *locatio conductio*;[93] and, together with *pretium* and *merces*, Roman jurists signified remuneration in *locatio conductio* also by using the word *pensio*.[94] Additionally, the assumption that *pretium* had necessarily referred to pecuniary remuneration,[95] does not reconcile with a lively school controversy revolving around the issue of *pretium in numerata pecunia*;[96] or, at least renders it a theoretical debate concerning terminological definitions, i.e. as a debate which mainly concentrated on the difference between *numerata pecunia* on the one hand, and *pecunia* allegedly embedded in *pretium* on the other hand.

[92] Fiori (1999) 233: '…*pretium*, infatti, a differenza di *merces*, ha nelle fonti di ogni epoca esclusivamente valore di *pecunia*'.

[93] Var. *LL* 5.178, who gives both *merces* and *manupretium* as signifying payment given for services or labour; and, see Kaufmann (1964) 138-45, for earlier period. Labeo *Dig*. 19.2.28.2 (4 *post. a javol. epit.*): '…*uti pretium conductionis praestaret*'; 19.2.58.pr. (4 *post*. a *javol.epit*.): '*quamvis eam conductor maiore pretio locaret*…'; Alf. *Dig*. 19.2.30.3 (3 *a paul. epit*.), who speaks of *manupretium*; Ulp. *Dig*. 19.2.19.3 (32 *ad ed*.), who speaks of *certo pretio*; 41.2.10. 2 (69 *ad ed*.), who speaks of *vero pretio*; Javol. *Dig*. 19.2.51.1 (11 *epist*.), who speaks of *certa mercedis*, *certa pecunia*, and *pretio opus*, all referring to paying remuneration in *locatio conductio opus faciendum*. But, see Ulp. *Dig*. 19.5.20.1 (32 *ad ed*.), which discussed a border-line case between *emptio venditio* and *locatio conductio*, where *pretium* is used for payment in the case a sale occurred, and *merces* in case it was a lease.

[94] Paul *Dig*. 19.2.54.1 (5 *respon*.); 19.2.55.2 (2 *sent*.); Ulp. *Dig*. 50.8.3.2 (3 *opin*.); 13.7.11.5 (28 *ad ed*.); Molnàr (1983-1984) 170-1.

[95] Var. *LL* 5.177: '*Pretium, quod emptionis aestimationisve causa constituitur, dictum a peritis, quod hi soli facere possunt recte id*'; assuming that money is not the only thing which enables evaluation, this citation offers no proof that *pretium* was to have an explicitly pecuniary nature.

[96] Gai. *Inst*. 3.141; Paul. *Dig*. 18.1.1.1 (33 *ad ed*.); 19.4.1.pr. (32 *ad ed*.); and Ch. 4, pp. 107-26, above.

Hence, I think that here the view presented by Karl-Heinz Misera should be preferred.[97] According to Misera, when Africanus speaks of *certo pretio* his intention is to stress the *certum* element of this phrase; that is, to emphasise that a fee was indeed agreed, thereby establishing the transaction as *locatio conductio*. There is no reason to assume that this 'fee' (Misera speaks of 'Entgelt') was necessarily paid in money, or that it could not have been the mutual assignment of rights of use and enjoyment.[98] If we accept that in the time of Gaius the issue of *pretium in numerata pecunia* was still the subject of a lively school controversy, then perhaps Africanus—a student of Julian, the head of the Sabinian school—when using the term *certo pretio* had in mind a Sabinian notion of *pretium*, according to which remuneration could consist also of other things (i.e. *pretium in ceteris rebus*) apart from *numerata pecunia*. In such case, "other things" could also refer to granting *uti frui*; and at any rate there is no reason to assume that Africanus necessarily perceived *certo pretio* as referring to payment in money.

The end of the excerpt further clarifies this point. There, Africanus reports a second case, in which separate owners cultivated each other's land in rotation, with the yield extracted (*fructus*) being reckoned as the *merces* ('*...ut fructus mercedis nomine pensaretur*'). Again, the present discussion follows Fiori, which rejects claims of post-classical interpolation, and sees this sentence as ultimately deriving from Africanus' *Quaestiones*.[99] Because the description of the case starts with '*quod ipsum simplicius ita quaeremus...*' it should be understood that all three jurists (Servius, Julian, and Africanus)

[97] Misera (1977).
[98] *Idem* 281-2.
[99] Fiori (1999) 230-6; Misera (1977) 274, who, although willing to accept post-classical interpolations, argues that the details of this case derive from Africanus himself; contra Mayer-Maly (1956) 132-3; Thomas (1971).

allowed the use of the *actiones locati et conducti* also in this situation. That is, they all perceived the mutual granting of rights of use and enjoyment to be a lease. Such an interpretation suits the reconstruction of the Sabinian view detailed above; according to which, just as an exchange of goods could be considered *emptio venditio*, so can an exchange of *res utendae fruendae* be considered *locatio conductio*.[100]

It should be stressed that the transaction here was classified as *locatio conductio* not because *merces* was given in *fructus*; rather, *fructus mercedis nomine pensaretur*, that is, *fructus* was to be considered as, or paid by way of, *merces*. Post-classical commentators understood *mercedis nomine* to mean that a pecuniary *merces* was agreed and was later converted into payment in kind.[101] Precisely such a practice is reported in an excerpt from Ulpian, in which the parties to a contract of lease agreed that *merces* be paid with a fixed amount of grain at a fixed price.[102] Ulpian categorises the transaction under *locatio conductio*, allowing *merces* to be paid in kind, but only under the condition that it was first calculated and agreed in money (*pecunia*). However, as pointed out by Fiori,[103] there is no reason to assume that this was also the intention of Africanus. Such an interpretation represents the view of the victorious side in the debate, presumably the

[100] Fiori (1999) 236; Misera (1977) 271.
[101] Fiori (1999) 234-5, esp. n. 171 with refernces to post-classical legal texts.
[102] Ulp. *Dig*. 19.2.19.3 (32 *ad ed*.): '*Si dominus exceperit in locatione, ut frumenti certum modum certo pretio acciperet, et dominus nolit frumentum accipere neque pecuniam ex mercede deducere, potest quidem totam summam ex locato petere, sed utique consequens est existimare officio iudicis hoc convenire, haberi rationem, quanto conductoris intererat in frumento potius quam in pecunia solvere pensionis exceptam portionem. Simili modo et si ex conducto agatur, idem erit dicendum*'. As pointed out in Honsell (1969) 139: 'Nur die Form, nicht der Inhalt des Fragments mutet nachklssisch an'.
[103] Fiori (1999) 234-5.

Proculians, according to which because *merces* was to be given, or at least stated and agreed, in money,[104] an exchange of *res utendae fruendae* could not qualify as a lease.

The phrase *mercedis nomine* appears also in an excerpt from Gaius, which deals with giving clothes for cleaning or mending.[105] Gaius states that if the work was undertaken freely, the case was one of *mandatum*; if *merces* was given or agreed, it was a *locatio conductio*; but if the value of payment was agreed only after the task was completed, Gaius labels such payment *mercedis nomine*, and states that the transaction was not *locatio conductio*, since remuneration was not agreed in advance; hence, was not *certa*. Because the contract could not qualify as *locatio conductio*, but the *causa* for making payment (presumably in money) was similar to that for giving remuneration in *locatio conductio*, Gaius offers to advance an *actio in factum* or *actio praescriptis verbis* in order to claim, on the basis of the agreement as a *iusta causa*, that which could be regarded as *merces* (*mercedis nomine*).[106] It follows that in this case *mercedis nomine* should be understood to mean that money was given "as if it was *merces*".[107] Such an interpretation suits also the use of *mercedis nomine* in Afric. *Dig*. 19.2.35.1 (8 *quaest*.). Here, too, the phrase signifies that something (i.e. *fructus*) was given "as if it was *merces*"; however, in this case the jurist categorised the transaction under *locatio conductio*. Subsequently, *mercedis nomine* should be understood to signify not that

[104] I.e. in *pecunia*, though perhaps not in *numerata pecunia*, as repeatedly pointed out by Fiori (1999) 234-41.

[105] Gai. *Dig*. 19.5.22 (10 *ad ed. prov*.). On giving clothes for cleaning or mending, see Du Plessis (2012a) 55-67.

[106] On the *actio praescriptis verbis* and the protection of innominate contracts, see pp. 155-8, below.

[107] However, see Gai. *Inst*. 3.162, who uses the phrase *quo nomine mercedem statuissem*, with *nomine* indicating not that something was given "as if it was *merces*"; but that the existence of any type of remuneration, pecuniary or other, should be questioned, contrasting the contract with a gratuitous agreement; i.e. *nomine* stresses that 'had *merces* been fixed, the transaction would be a *locatio conductio'*.

Africanus considered the *fructus* itself to be *merces*, but that *fructus* was the tangible representative of the actual *merces*; with the latter somehow being conceptualised in monetary terms, or, to go one step further, perhaps even perceived as the reciprocal exchange of rights of use and enjoyment.[108]

So far it has been shown that Africanus, Julian, Servius, and perhaps also Gaius, were of the opinion—which Fiori labels 'Sabinian'—that an exchange of rights of use and enjoyment fell under the category of *locatio conductio*. Yet, as indicated by Gaius' *quaeritur*,[109] it was certainly not the only legal stand existing at the time. In the first decades of the third century leading Roman jurists—namely, Ulpian and Paul—were of the opposite opinion, according to which an exchange of *res utendae fruendae*, as a general rule, could not be classified under *locatio conductio*.

5.3.2. Ulpian

We start with an excerpt from Ulpian which discusses a situation comparable with the second case reported in Afric. *Dig*. 19.2.35.1 (8 *quaest*.):

> Si, cum unum bovem haberem et vicinus unum, placuerit inter nos, ut per denos dies ego ei et ille mihi bovem commodaremus, ut opus faceret, et apud alterum bos periit, commodati non competit actio, quia non fuit gratuitum commodatum, verum praescriptis verbis agendum est.[110]

[108] Misera (1977) 269: '...das Entgelt besteht darin, daß jeder seinerseits die Sache des anderen zur Nutzung erhält'. In the terminology offered by Fiori (1999), who stresses the synallagmatic *merces-uti frui* connection created by *locatio conductio*, by exchanging rights of use and enjoyment the *merces* provided by party A for receiving *uti frui* from party B was granting party B *uti frui* in property belonging to party A.

[109] Gai. *Inst*. 3.144.

[110] Ulp. *Dig*. 19.5.17.3 (28 *ad ed*.): 'My neighbour and I each have an ox. We decide that for ten days apiece we will lend our oxen to each other to do a job. An ox died in the hands of the other person. Because the loan was not gratuitous, the action on loan for use does not lie, and action must be brought *praescriptis verbis*'. Translation is that of Watson (1985), albeit here *bovem* is translated as 'ox' instead of Watson's 'cow'.

Here the case concerns neighbours, each owning an ox, who agree to interchange in rotation the work-force of their oxen.[111] As in the situation reported at the end of Afric. *Dig*. 19.2.35.1 (8 *quaest*.), this case, too, deals with separate owners who agreed to allow one another *uti frui* in each other's property. While Africanus considered a transaction of similar outline to be *locatio conductio*, Ulpian did not qualify it as such. Ulpian uses neither the verb *locare* nor *conducere*. Instead, he examines whether the case could be classified under *commodatum* (loan for use), but concludes that, since the use of oxen was not granted gratuitously, this course of action should be rejected; with the outcome of offering as legal aid the *actio praescriptis verbis*.

The *actio praescriptis verbis* was a development of need.[112] Both second-century jurists, Celsus (a Proculian) and Julian (a Sabinian), state that whenever contracts arise whose names were not instituted in civil law, the *actio praescriptis verbis* could be applied.[113] The reasoning for this is articulated in an excerpt from Ulpian: 'It is implicit in the nature of reality that there are more types of transactions than names for them'.[114] This was the logic behind the *actio praescriptis verbis*. It gave remedy to offended parties in bilateral reciprocal transactions which did not fall under any specific contract, when one party performed while the other did not reciprocate, yet the case was not one of fraud. It serves as a good example for the creativity displayed on the part of Roman

[111] A similar case is reported in Just. *Inst*. 3.24.2, where the opinion given is the same as Ulpian's; Mayer-Maly (1956) 131-2; Misera (1977) 270, 272.
[112] *Dig*. 19.5; *CJ* 4.64.1 (Gord., 238); *CJ* 4.64.2-8 (Diocl. et Maxim., 286-305); *CJ* 4.54.2 (Alex. Severus, 222). Also Berger (1953) 344; Kaser (1971) 419f.; Zimmermann (1996) 532-5. On legal protection granted to innominate contracts, see Kremer (2000), *non vidi*; Zhang (2007).
[113] Cels. *Dig*. 19.5.2 (8 *dig*.); Julian. *Dig*. 19.5.3 (14 *dig*.).
[114] Ulp. *Dig*. 19.5.4 (30 *ad Sab*.): '*Natura enim rerum conditum est, ut plura sint negotia quam vocabula*'.

jurists in their quest to address the economic interests of their contemporaries on the one hand, while preserving juristic definitions and the strictness of law on the other hand.

Another excerpt from Ulpian considers a case of co-owners who agreed to cultivate their land in rotation, collecting the yield in alternate years:

> Si convenerit inter te et socium tuum, ut alternis annis fructum perciperetis, et non patiatur te socius tui anni fructum percipere, videndum, utrum ex conducto sit actio an vero communi dividundo. Eadem quaestio est et si socius, qui convenerat, ut alternis annis frueretur, pecus immisit et effecit, ut futuri anni fructus, quos socium percipere oportuit, corrumperentur. Et puto magis communi dividundo iudicium quam ex conducto locum habere (quae enim locatio est, cum merces non intercesserit?) aut certe actionem incerti civilem reddendam.[115]

The case reported in this excerpt mixes components from both situations reported in Afric. *Dig*. 19.2.35.1 (8 *quaest*.): it concerns co-owners (Ulpian speaks of *socii*), as in the first situation considered by Africanus; and remuneration is given in *fructus*, as in Africanus' second situation.[116] Unlike in Ulp. *Dig*. 19.5.17.3 (28 *ad ed*.), here Ulpian considers the possibility of *locatio conductio*. However, contra Africanus and Servius, he argues that in this case it is not the *actio ex conducto* which should be pursued,[117] but rather the *actio communi dividundo*, suggested by Julian and accepted as valid also by

[115] Ulp. *Dig*. 10.3.23 (32 *ad ed*.): 'If you and your partner have agreed to take the fruits in alternate years and the partner will not let you take the fruits in your year, let us consider whether there should be an action on hire or an action for dividing common property. The same question also arises if the partner who agreed to take the fruits in alternate years has let his livestock onto the land with the result that the next year's fruits, which his partner ought to have received, are spoiled. I think the action for dividing common property applies better than the action on hire (for what sort of hire is this, when no payment is involved?), or at any rate a civil action for an uncertain amount should be granted.' For a discussion of this excerpt, see Mayer-Maly (1956) 133-5; Misera (1977) 273-8; Fiori (1999) 236-8.

[116] Fiori (1999) 236-8; Misera (1977) 277, who prefers seeing this case, combined with Afric. *Dig*. 19.2.35.1 (8 *quaest*.), as 'ein Schulbeispiel'.

[117] Misera (1977) 279-80; Fiori (1999) 237, esp. n. 180.

Africanus; alternatively, says Ulpian, also the *actio civilis incerti* may be advanced.[118] His justification is most interesting for the present topic. 'For how can one speak of a lease', asks Ulpian rhetorically, 'if no *merces* is involved?' In order for a lease to exist there needs to be an identifiable *merces*. Clearly, in Ulpian's view, the *fructus* collected by each of the co-owners did not qualify as such; but why?

The reason is found earlier in the same treatise; namely in Ulp. *Dig*. 16.3.1.9 (30 *ad ed*.):

> Si quis servum custodiendum coniecerit forte in pistrinum, si quidem merces intervenit custodiae, puto esse actionem adversus pistrinarium ex conducto: si vero mercedem accipiebam ego pro hoc servo, quem in pistrinum accipiebat, ex locato me agere posse: quod si operae eius servi cum custodia pensabantur, quasi genus locati et conducti intervenit, sed quia pecunia non datur, praescriptis verbis datur actio: si vero nihil aliud quam cibaria praestabat nec de operis quicquam convenit, depositi actio est.[119]

Here a different scenario for exchanging *res utendae fruendae* is considered. In this case a slave given for safekeeping was put to work by the safe-keeper. According to Ulpian, only if the latter received payment (*merces*) for the custody he provided, can the *actio locati* be brought against him. But if the slave was given for safekeeping with the understanding that his labour was payment for the expenses of his custody, Ulpian says that although a kind of a lease occurred ('*quasi genus locati et conducti intervenit*'), because no money was given ('*sed quia pecunia non datur*'), the transaction was not a

[118] For suspicions for interpolation, see Mayer-Maly (1956) 134; Fiori (1999) 237, n. 181, with further references.

[119] Ulp. *Dig*. 16.3.1.9 (30 *ad ed*.): 'If anyone compels a slave held for safekeeping to work in a mill, I think that there is an action on hire against him if he received payment for the safekeeping. However, if it was I who received payment for this slave whom he took into the mill, I can bring the action on leasing. But if the work of the slave was payment for the safekeeping, this is as if it were a kind of leasing and hiring but, because money is not paid, an action *praescriptis verbis* is given. Indeed, if nothing other than food was supplied and nothing was agreed concerning the work, the action is on deposit'.

locatio conductio; instead, he offers to advance the *actio praescriptis verbis*. His verdict—according to which safekeeping services in exchange for custody expenses is not a lease—leads to the conclusion that Ulpian did not qualify an exchange of *res utendae fruendae* as *locatio conductio*.

What is interesting for the present discussion is the clear equivalence drawn by Ulpian between *merces* and *pecunia*. Ulpian seems to assume that the evidence for the existence of *merces* is the giving of *pecunia*, without which there is no *merces*, hence neither a *locatio conductio*. It appears that in Ulpian's opinion *merces* was a payment given in monetary form.[120] This is the reason why neither this case,[121] nor the two cases previously discussed—i.e. the neighbours who interchanged in rotation the work-force of their oxen,[122] and the co-owners who individually collected *fructus* in alternate years[123]—are classified by Ulpian as *locatio conductio*.

Yet, Ulpian did not entirely reject the possibility of receiving *merces* in kind. As seen above, he allowed for *merces* to be given in kind when the goods offered were of a fixed amount and were given a fixed price (*frumenti certum modum certo pretio*), both of which had been agreed in advance at the time of contracting the lease.[124] This way *merces* was calculated, hence conceptualised, in monetary terms, albeit in practice delivered in kind.[125] Such an agreement allowed the lessee to minimise risk against very low prices at the time of the harvest. As pointed out by Dennis Kehoe, the tenant 'clearly

[120] Also, Paul. *Dig*. 19.5.5.2 (5 *quaest*.), discussed on p. 162, below.
[121] Ulp. *Dig*. 16.3.1.9 (30 *ad ed*.).
[122] Ulp. *Dig*. 19.5.17.3 (28 *ad ed*.).
[123] Ulp. *Dig*. 10.3.23 (32 *ad ed*.).
[124] Ulp. *Dig*. 19.2.19.3 (32 *ad ed*.), discussed on pp. 153-4, above. Ulpian's requirement for a monetary *merces* did not renounce the legality of *locatio partiaria*, on which see pp. 171-2, below.
[125] Rathbone (1991) 318-30, who argues that this was how *merces* was regularly treated in the agricultural context of third-century Egypt.

was settling for a lower price for his grain than he might have been able to obtain had he waited to sell it, but he was protecting himself against the risk that grain prices might collapse and leave him in no position to pay his rent'.[126] From this excerpt[127] it appears that eventually the *dominus* (i.e. the *lessor*) insisted on receiving the rent in money (*pecunia*); hence, he advanced an *actio ex locato*. Presumably this was because at the time of paying the rent the market price of grain was extremely low, making it more beneficial for the *lessor* to demand remuneration in *pecunia*.[128] The jurist does not reject the *lessor*'s right to demand *merces* in *pecunia*, but rules that in such a case the pecuniary sum set by the judge should take into consideration the *interesse* of the *conductor*. In other words, the tenant should not suffer any loss by paying *merces* in *pecunia* rather than in the quantity of grain agreed; meaning that the sum set by the judge should follow that calculated and agreed at the time of contracting the lease, while seeing to it that the tenant will not suffer grave loss due to actual (low) prices of grain.[129] No matter which method of payment was eventually followed, *in natura* or *in pecunia*, *merces* was determined by the amount initially agreed, calculated and conceptualised in monetary units of account.

Thus, two points can be established concerning Ulpian's stand. One is that Ulpian did not classify an exchange of *res utendae fruendae* under *locatio conductio*; the other is that, according to Ulpian, *merces* was to be paid, and if not paid then conceptualised, in *pecunia*.[130]

[126] Kehoe (1997) 216-7.
[127] I.e. Ulp. *Dig*. 19.2.19.3 (32 *ad ed*.).
[128] Honsell (1969) 139-40.
[129] As pointed out in Medicus (1962) 160: '*Quanto intererat* ist also hier die Differenz zwischen zwei leicht festzustellenden Preisen', the fixed price agreed in the lease contract, and the price at which the tenant eventually managed to sell the gain in order to pay *merces* in *pecunia*. Also Honsell (1969) 138-40.
[130] Though, as pointed out by Fiori (1999) 238-9, perhaps not in *numerata pecunia*.

5.3.3. Paul

This position is stated more straightforwardly by Ulpian's contemporary, Paul. As shown in the previous chapter, in the school controversy revolving around the issue of *pretium in numerata pecunia* in contracts of sale Paul took sides with the eventually triumphant Proculian approach.[131] As is shown below, he remains consistent with the Proculian line of argumentation also in the case of *locatio conductio*. Just as he did not allow for an exchange of goods to be classified as *emptio venditio*, similarly he denied that an exchange of rights of use and enjoyment can be classified as *locatio conductio*. Furthermore, just as money was that which defined *pretium* in contracts of *emptio venditio*, equally it was money which defined *merces* in contracts of *locatio conductio*.

In a well-known excerpt from his *Quaestionum*, preserved in Justinian's *Digest* under the title *De praescriptis verbis et in factum actionibus*, Paul divides exchange transactions into four categories:[132] 'Either [1] I give to you in order that you give or [2] I give that you do or [3] I do that you give or [4] I do that you do'.[133] Within this famous fourfold categorisation Paul lists various legal remedies which can be granted to different obligations, whether these arise from specific contracts (e.g. *emptio venditio, locatio conductio, mandatum*), or are created by what is known as "innominate contracts".[134] Under Paul's first category, 'I give to you in order that you give', if both parties give *res*, Paul classifies the transaction as barter (*permutatio*); only if one party gives *res* while the

[131] See the previous chapter.
[132] Cristaldi (2007) 108-12, esp. 109, n. 109, with further references to scholars who argue in favour of post-classical interpolation, and those who argue that the substance is genuinely Paul's. Also, see Kremer (2000), *non vidi*; Dalla Massara (2004), *non vidi*.
[133] Paul. *Dig*. 19.5.5.pr. (5 *quaest*.): '*…In hac quaestione totius ob rem dati tractatus inspici potest. Qui in his competit speciebus: aut enim do tibi ut des, aut do ut facias, aut facio ut des, aut facio ut facias…*'
[134] On legal protection granted to innominate contracts, see Kremer (2000), *non vidi*; Zhang (2007); Pelesso (2007); (2011); Dalla Massara (2011); Fiori (2012).

other gives *pecunia*, Paul—in accordance with the Proculian view—classifies the transaction as a sale (*emptio venditio*).[135]

The second category, 'I give so that you do', is further divided by Paul as follows.[136] If the task agreed to be done was such which cannot be leased out (Paul gives the example of manumitting a slave), then the action available against the party who did not perform is either a *condictio* for reclaiming that which was given, or the *actio praescriptis verbis* for compelling performance.[137] If, on the other hand, the task agreed to be done was 'of a kind such as is normally leased out' (*tale sit factum, quod locari solet*), then only when what was given in return was *pecunia*, was the transaction a lease.[138] If what was given in return was not *pecunia* but some other *res*, then the transaction, according to Paul, did not qualify as *locatio conductio*; instead, what should be advanced is either an *actio civilis* for claiming the *res*, or a *condictio* for reclaiming it.

Paul's third category, 'I do so that you give', is similar to the second in the sense that it consists of two parties, one which gives and one which does. However, here Paul makes no reference to *locatio conductio*; neither does he comment on the nature of the thing given, i.e. whether it was *pecunia* or some other *res*.[139] It can be concluded that it made no difference. This is because Paul resorts here to a principle, already observed in

[135] Paul. *Dig*. 19.5.5.1 (5 *quaest*.).
[136] Paul. *Dig*. 19.5.5.2 (5 *quaest*.): '*At cum do ut facias, si tale sit factum, quod locari solet, puta ut tabulam pingas, pecunia data locatio erit, sicut superiore casu emptio: si rem do, non erit locatio, sed nascetur vel civilis actio in hoc quod mea interest vel ad repetendum condictio*'. See Cuq (1928) 502 n.9, for the possibility of interpolation.
[137] If the party who performed (i.e. "did") was later evicted from that which was given to him, the action available against the giver was either one on fraud, or, when truly ignorant of claims for eviction, an *actio in factum*.
[138] Also Paul. *Dig*. 17.1.1.4 (32 *ad ed*.), who states the rule that giving money disqualifies a transaction from being a *mandatum*, rendering it a *locatio conductio*. However, see Longo (1953) 690.
[139] Paul. *Dig*. 19.5.5.3 (5 *quaest*.).

Caelius Sabinus' *media sententia* concerning *pretium* in *emptio venditio*,[140] according to which the order of actions did make a difference. Therefore, 'X gives so that Y does', differs from 'Y does so that X gives'. While Paul granted an *actio civilis* in the former situation, it was not made available in the latter. The party which performed but received nothing in return was allowed only an action on fraud.

Paul's fourth and last category, 'I do so that you do' (*facio ut facias*),[141] could potentially include an exchange of *res utendae fruendae*; as in Paul's own example of two owners who agreed that each would build on the other's land.[142] However, the only legal aid provided by Paul for such cases is the *actio praescriptis verbis*; that is, the *actio* available for agreements regarding reciprocal exchange of either goods or services, where one party performed while the other did not reciprocate, and in which, according to Paul, none of the parties was remunerated in money. It appears that Paul took the Proculian requirement of a monetary remuneration in *emptio venditio* and applied it by way of analogy also in *locatio conductio*, automatically rendering any exchange of rights of use and enjoyment to be a transaction which cannot be qualified as *locatio conductio*.

To conclude the discussion so far, two opposing views have been detected. On the one hand, Servius, Julian, Africanus, and perhaps also Gaius—representing what was presumably a Sabinian stand—were of the opinion that an exchange of *res utendae fruendae* qualified as *locatio conductio*. On the other hand, Paul and Ulpian—

[140] Gai. *Inst*. 3.141, who reports that Caelius Sabinus argued that it was the order of events that determined which party offered the merchandise (*merx*), and which the purchase-price (*pretium*); and Ch. 4, pp. 103-5, above.
[141] Paul. *Dig*. 19.5.5.4 (5 *quaest*.).
[142] One could perhaps perceive this case in terms of two parties hiring each other's services to construct a building; however, the distinguished jurist considers only the possibility of *mandatum*.

representing what was probably a Proculian stand—rejected this view, arguing that an exchange of *res utendae fruendae* did not fall under any specified contract.[143] We move now to consider the implications of this debate on the pecuniary nature of *merces*.

5.4. The nature of *merces*: *res*, *pecunia*, and *pecunia numerata*

Seeing an exchange of *res utendae fruendae* as a valid *locatio conductio* (the presumably Sabinian stand) meant perceiving the synallagmatic obligation created by the contract, i.e. the *merces-uti frui* connection, in circular terms; that is, one party's *merces* is another party's *uti frui*, and vice versa. If granting *uti frui* may in itself act as *merces*, there is no reason to assume that giving some sort of *res* could not equally qualify as *merces*. Therefore, jurists who held an exchange of *res utendae fruendae* to be a valid *locatio conductio* should be expected not to have required that *merces* be paid solely in money.

Jurists who held the opposing (presumably Proculian) stand, according to which an exchange of *res utendae fruendae* was not *locatio conductio*, were more explicit in stating their view regarding the pecuniary nature of *merces*. As seen above, both Ulpian and Paul expected *merces* to be in *pecunia*. Ulpian seems to have postulated that the existence of *merces* meant the involvement of *pecunia*;[144] and that *merces* was to be given, or at least calculated and agreed, in monetary terms.[145] Paul—expressing what was clearly a Proculian stand—openly required *merces* to be in *pecunia*;[146] probably drawing

[143] Hence, in case of a breach they offered as legal remedy the *actio praescriptis verbis*. For interpreting this dispute in terms of the Sabinian-Proculian rivalry, see Misera (1977) 271; Fiori (1999) 236-49.
[144] Ulp. *Dig*. 10.3.23 (32 *ad ed*.); 16.3.1.9 (30 *ad ed.*).
[145] Ulp. *Dig*. 19.2.19.3 (32 *ad ed*.).
[146] Paul. *Dig*. 17.1.1.4 (32 *ad ed*.); 19.5.5.2 (5 *quaest*.).

an analogy from the Proculian stance in the school controversy revolving around the issue of *pretium in numerata pecunia* in contracts of sale.

However, with regard to that famous controversy, this specific phrase, *numerata pecunia*, appears in neither Paul's excerpts,[147] nor Ulpian's; in fact, the requirement of a pecuniary *merces* is articulated in terms of *numerata pecunia* only in post-classical law.[148] This presumably is the reason why Roberto Fiori emphasised that the (Proculian) requirement of a pecuniary *merces* did not necessarily mean that *merces* was to be in *numerata pecunia*, as required from *pretium* in *emptio venditio*; with the phrase *numerata pecunia* understood by Fiori to mean cash money or coinage (Fiori uses 'in denaro').[149] Thus, two questions arise. Could *merces* legally be given in *res* which was not *pecunia*? And, why is it that the eventually triumphant (presumably Proculian) view, according to which *merces* should be in money, was articulated by classical Roman jurists in terms of *pecunia* and not *numerata pecunia*, as was the case for *pretium* in *emptio venditio*[150]?

At the start of the discussion it should be stated that many scholars hold Classical Roman Law to have required that *merces* be paid in cash money.[151] While cash *merces* was probably common practice[152]—and keeping in mind that legal practice may diverge

[147] Paul. *Dig*. 47.2.26.1 (9 *ad sab*.), who speaks of a tenant '*qui nummis colat*'.
[148] *Sch. ad Bas.* 20.1.2.1; see p. 146, n. 70 above.
[149] Fiori (1999) 234-41, esp. 238-9; but, see Misera (1977) 272, who argues that *merces* was required to be in cash money already at the end of the classical period of Roman law.
[150] As seen in the previous chapter, it is only Gai. *Inst*. 3.141, who uses the phrase *numerata pecunia*; Paul when reporting this school controversy speaks of *pretium* in *nummi*; Paul. *Dig*. 18.1.1.1 (33 *ad ed*.); 19.4.1.pr. (32 *ad ed*.); or, talks of *pecunia*; 17.1.1.4 (32 *ad ed*.); 19.5.5.2 (5 *quaest*.).
[151] Thomas (1958); Kaser (1971) 566; Martin (1989) 31, 122; Kehoe (1997) 148; Du Plessis (2012a) 179; to cite only a few. Contra, Longo (1953); Misera (1977) 271-3, who argues that monetary *merces* became obligatory only by the end of the classical period of Roman law; De Neeve (1984) 15, who states that 'Tenancy proper only exists if remuneration, the *merces*, consists of a fixed amount, either in money or in kind'; Fiori (1999) 238-9, who says that *merces in pecunia* was a Proculian requirement, not necessarily approved by Sabinian jurists, and that at any rate it did not mean that *merces* was to be in *numerata pecunia*, understood by Fiori to mean cash money ('in denaro').
[152] What Kehoe (1997) 148-50, labels a "normative" lease.

from legal doctrine,[153] as seen above in cases of non-symbolic *merces*—still, as demonstrated below, cash money was not the only form in which *merces* could legally be given.[154]

The particularities of calculating and paying *merces* were subject to agreements between parties.[155] Legally it made no difference for the validity of the contract whether *merces* was agreed as a lump sum or as a payment per certain unit.[156] *Merces* could be agreed in advance, fixed at a lump sum;[157] in which case, regardless of method of payment (i.e. cash, credit, or in kind), or number of instalments,[158] it seems that *merces* was stated in monetary units of account. Alternatively, it could be agreed that *merces* be paid per certain unit of measure (*per pedes mensurasve*),[159] in which case the total amount to be paid was determined only after the task was performed, evaluated, and approved.[160] Examples in Justinian's *Digest* for *merces* calculated per certain unit include payment per jar to be transported,[161] per one day's work,[162] or per number of days for

[153] With the potential of rendering instances of non pecuniary *merces* as illegal deviations.
[154] A point realised also by Kehoe (1997) 148-9.
[155] Paul. *Dig*. 19.2.22.3 (34 *ad ed*.); Herm. *Dig*. 19.2.23 (2 *iur. epit*.).
[156] Javol. *Dig*. 19.2.51.1 (11 *epist*.); Martin (1989) 106-7. However, it certainly mattered to the parties involved, as it affected the level of provision; Martin (1989) 31-2, 103-22.
[157] E.g. Javol. *Dig*. 19.2.51.1 (11 *epist*.); Labeo *Dig*. 19.2.60.4 (5 *post. a javol. epit*.); 14.2.10.2 (1 *pith. a paul. epit*.), who states that if a ship was hired for a lump sum (*aversio*), that sum regarded the maximum amount of cargo the ship could hold. *Aversio* in the sense of a lump sum appears also in Ulp. *Dig.* 14.1.1.15 (28 *ad ed*.); 18.6.4.1 (28 *ad ed*.); Flor. *Dig*. 19.2.36 (7 *inst*.).
[158] Paul. *Dig*. 19.2.24.2 (34 *ad ed*.); Lab. *Dig*. 19.2.58.2 (5 *post. a javol. epit*.); 19.2.60.4 (5 *post. a javol. epit*.); *FIRA* III 153, where the payment for the construction of a wall around the precinct of the temple of Serapis in Puteoli was given in two instalments, at the beginning of the job, and after its culmination and approval; Martin (1989) 31-2, 114.
[159] Flor. *Dig*. 19.2.36 (7 *Inst*.); Martin (1989) 105-6, 115-7, 140-4.
[160] On *probatio*, the final approval of the work, especially in construction, see Martin (1989) 103-16; and 117-20, who points that in construction additional expense above the original *merces* agreed was probably commonplace.
[161] Labeo *Dig*. 14.2.10.2 (1 *pith. a paul. epit*.).
[162] Javol. *Dig*. 19.2.51.1 (11 *epist*.), who speaks of *certa pecunia* to be given *in singulos dies*. For possible interpolation at the end of this excerpt, see Molnàr (1982) 655-6; but, see Martin (1989) 106-8, who, while not rejecting the possibility that the text was abbreviated, argues that its substance is probably

which the *conductor* received *uti frui*.[163] Although in these instances the texts contain no obvious reference as to whether the agreed *merces* per unit was calculated in monetary terms or in kind, Justinian's *Digest* also preserves an example for *merces* per unit which was explicitly reckoned in monetary terms, that is, *merces* per number of stones used in construction, with the monetary sum of seven monetary units of account stated per stone.[164]

We have seen above that *merces* could legally be given in the form of a fixed amount of goods at a fixed price, in which case, though paid in kind, it was calculated in monetary units of account.[165] Leasing land for a fixed rent in kind appears also in an imperial rescript of Alexander Severus, referring to a lease of an estate for *certis annuis quantitatibus*;[166] and a rescript of Diocletian and Maximian (somewhat after the period here under investigation), referring to a lease for a fixed amount of olive oil.[167] Furthermore, it could be agreed that on top of a fixed pecuniary *merces* other things would also be rendered;[168] be these tangibles,[169] or some task or service to be

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classical. However, see the preceding excerpt, Javol. *Dig*. 19.2.51.pr. (11 *epist*.), which explicitely speaks of *merces* in *pecunia*.

[163] Ulp. *Dig*. 19.5.20.1 (32 *ad ed*.), where mules are given in a kind of a conditional sale, the condition being that if the receiver is unsatisfied with the mules he would not be obliged to buy them, but would pay an amount for each day he had used them.

[164] Alf. *Dig*. 19.2.30.3 (3 *a paul. epit*.); on the authenticity of the wording of this excerpt, see Du Plessis (2006) 88-9.

[165] Ulp. *Dig*. 19.2.19.3 (32 *ad ed*.), discussed on pp. 153-4, above.

[166] *CJ* 4.65.8 (Alex. Sev., 231).

[167] *CJ* 4.65.21 (Diocl. 293); both imperial rescripts mentioned in Kehoe (1997) 148; Fiori (1999) 240.

[168] Ulp. *Dig*. 24.3.7.8 (31 *ad ed*.).

[169] A method presumably not uncommon in cases of employment; e.g. *P.Oxy*. X 1275 (Oxyrhynchos, third century CE), a contract hiring musicians for a five-day village celebration, for which wages were 140 *drachmae* a day, 40 pairs of loaves, and 8 *cotylae* of *raphanus* oil a day, as well as one jar of wine and one of vinegar for the whole 5 days (ll. 15-20)**;** *P.Oxy*. LXXIV 5014 (Thosbis; Oxyrhynchite Nome, third century CE), a contract hiring a company of *aulos*-players and dancers (*krotalistriai*) for 5 days for a similar wage of 120 *drachmae* a day and 40 pairs of loaves, 8(?) *kotylai* of radish-oil, and (for all of the days?) one *keramion* of wine and one of vinegar (ll. 11-16).

performed.[170] Though this may result in an uncertain total value of remuneration—either due to price fluctuation of the additional *res*, or because it was difficult to tag a price to the supplementary services—, it seems not to have affected the validity of the contract. Apparently, it sufficed that part of the remuneration was fixed in monetary terms (regardless of method of payment, i.e. cash money or in kind); thereby allowing it to be clearly determined which party was *conductor* and which *locator*.[171]

Other evidence which indicates that *merces* could consist of tangibles supplementing a monetary sum derives from juridical discussions on the legal definition of *locatio conductio*. In certain borderline situations, where there was need to determine whether the contract was *locatio conductio* or *emptio venditio*, what tipped the scales in favour of *locatio conductio* was the fact that other non-pecuniary tangibles were rendered in addition to money. Thus, Pomponius[172] attributes to Sabinus a *responsum* which states that when money (*pecunia*) was given in order that something be made (e.g. a statue, a vessel, or a garment), 'there can be no question of letting and hiring where there is no provision of the materials from which the thing is to be made'.[173] That is, if *pecunia* alone

[170] E.g. Colum. *RR* 1.7.2, for earlier period; Paul. *Dig*. 19.2.24.3 (34 *ad ed*.), referring to further obligations of the tenant, appart from paying the rent, such as do the planting or perform some other task (*velut opus aliquod efficerent*); *P.Tebt*. II 363 (Tebtunis, early second century), which records an account of paying in kind taxes and transport charges on leased temple land.

[171] To borrow the Proculian argumentation used for justifying the necessity of monetary remuneration in contracts of sale; on which see the previous chapter.

[172] As stated in the previous chapter, it is a matter of scholarly debate whether Pomponius was affiliated with the Sabinians or the Proculians; Baviera (1898) 27-30, who argues that Pomponius was a Proculian; Thomas (1959) 167-70, who argues that he was a Sabinian; also, see Honoré (1962) 21-26; Stolfi (1997) 7-16; Leesen (2010) 3-4.

[173] Pompon. *Dig*. 18.1.20 (9 *ad sab.*): '*Sabinus respondit, si quam rem nobis fieri velimus etiam, veluti statuam vel vas aliquod seu vestem, ut nihil aliud quam pecuniam daremus, emptionem videri, nec posse ullam locationem esse, ubi corpus ipsum non detur ab eo cui id fieret: aliter atque si aream darem, ubi insulam aedificares, quoniam tunc a me substantia proficiscitur*'. For an indepth discussion of this excerpt, especially on the juridical notions of *substantia* and *materia* and how these affect the meaning of '*ubi corpus ipsum non detur ab eo cui id fieret*', see Fiori (1999) 190-206. On the remark on construction at the end of this excerpt, see Martin (1989) 34-6, 142-3; Du Plessis (2012a) 65-6, 76-7.

was given, the case was one of sale; in order for the transaction to be *locatio conductio* the party commissioning the job was to supply the materials on which it was to be performed. In other words, for *locatio conductio* to come into existence, the party paying *pecunia* needed also to hand over non-pecuniary things, be they merchandise or real estate. From Sabinus' reply it appears that these, however, were not part of the remuneration *per se*.[174]

A passage from Gaius' *Institutiones* reveals that Sabinus' reply represents a triumphant position in a legal debate:

> Item quaeritur, si cum aurifice mihi conuenerit, ut is ex auro suo certi ponderis certaeque formae anulos mihi faceret et acciperet uerbi gratia denarios CC, utrum emptio et uenditio an locatio et conductio contrahatur. Cassius ait materiae quidem emptionem uenditionemque contrahi, operarum autem locationem et conductionem; sed plerisque placuit emptionem et uenditionem contrahi. atqui si meum aurum ei dedero mercede pro opera constituta, conuenit locationem conductionem contrahi.[175]

It was suggested above that the *quaeritur* in Gai. *Inst*. 3.144, be put on the same level as the *quaeritur* in Gai. *Inst*. 3.141, thereby interpreting that disagreement in terms of school rivalry. The *quaeritur* in this passage, Gai. *Inst*. 3.147, is of a different character. The passage concerns the question whether a transaction, in this case a goldsmith instructed to prepare gold rings, should be classified as *locatio conductio* or as *emptio venditio*. Gaius reports the opinion of Cassius, according to which the transaction

[174] Furthermore, *dominium* over the non-pecuniary thing(s) was never transferred, either from customer to artisan, or from artisan to customer; Fiori (1999) 201-3.

[175] Gai. *Inst*. 3.147: 'Likewise, if a goldsmith agrees with me that he shall make me rings of a given weight and design out of his own gold, and shall receive, say, two hundred *denarii*, it is questionable whether purchase and sale or lease and hire is contracted. Cassius says that the contract is one of purchase and sale of the material, but lease and hire of the work. But most [jurists] hold that the contract is one of sale. But if I bring my own gold and remuneration is fixed for the work, it is agreed that the contract is one of lease and hire'. Translation is my own, based on both De Zulueta (1946) 199-201; and Gordon and Robinson (1988) 349.

was *emptio venditio* in respect of the *materiae*, and *locatio conductio* in respect of the *operarum*. This Gaius contrasts with what he labels the majority's opinion, according to which the transaction was solely a sale. It is somewhat unlikely that Gaius would label a Proculian stance as the view of 'most jurists' (*plerisque*). Combined with the *responsa* of Sabinus reported by Pomponius,[176] it appears that the disagreement was, in fact, an internal Sabinian matter,[177] and concerned those cases in which artisans provided the *materiae*. However, when the latter were provided by the party commissioning the job, it seems there was no question that the contract was one of *locatio conductio*.

Roberto Fiori had convinsingly shown that this internal Sabinian disagreement, between Sabinus and Cassius, sprang from a discussion on the problem of transferring *dominium* in *locatio conductio*, and was due to a shift of views which occurred in the transformation from older late-republican notions to newer early-imperial ones.[178] There is no need here to enter the details of this process, as it offers little relevance to the present topic of study, which is the role of money in defining *merces* in Classical Roman Law. What matters is that it demonstrates that in classical Roman legal discourse—even one taking place within the Sabinian school—the basic presupposition was that remuneration was to be in *pecunia*; indicating how customary pecuniary *merces* actually was.[179] However, in certain borderline cases it was required that other things apart from money be rendered in order for the transaction to be defined as *locatio conductio*. These

[176] Pompon. *Dig*. 18.1.20 (9 *ad sab.*); Fiori (1999) 190-207.
[177] Fiori (1999) 206; Leesen (2010), who does not list it in her account of school controversies.
[178] Fiori (1999) 183-228; 50-63, on late-republican views and their falsehood in the eyes of Pomponius; 177-81, on Labeo's view regarding the transfer of *dominium* in *locatio conductio*.
[179] What Kehoe (1997) 148-9, refers to as 'a "normative" lease for a fixed rent in cash'.

things, though supplementing a (pecuniary?) *merces*, were not included as part of it; hence, in early imperial Roman law no transfer of the *dominium* over them occurred.[180]

Regardless of school controversies or other juridical disagreements, in one common form of lease monetary remuneration was certainly not obligatory: in a lease of agricultural land. In such leases parties could agree that remuneration be paid with a share of the crop, what is known as *colonia partiaria* or *locatio partiaria*.[181] Sharecropping is evident for both the republican and the imperial periods;[182] was practised alongside cash rent throughout the period here under investigation;[183] and was applied in leases of state,[184] temple,[185] or privately owned land.[186] Not every agricultural lease in which *merces* was given in kind was sharecropping. *Colonia partiaria* referred to those leases in which remuneration consisted of a percentage of the yield;[187] hence did not affect leases in which *merces* was fixed at a certain amount, even when the latter was

[180] Fiori (1999) 183-228.

[181] This form of lease allowed tenants and landlords to share the risk of crop failure. Ferrini (1929); Mayer-Maly (1956) 135-8; Thomas (1958) 197-9; Kaufmann (1964) 239-44, 303-19; Watson (1965) 101-4; Kaser (1971) 566; De Neeve (1984) 15-18, 68-9, 88-90; Kehoe (1993) 60-66; (1997) 11-12, 142-8; Zimmermann (1996) 354-5; Fiori (1999) 239-41. Also pestoring cattle was refreed to in terms of *locatio partiaria*; *CJ* 2.3.9 (Alex. Sev., 222).

[182] Republic: e.g. Cato A*gr*. 136-7; Var. *RR* 3.16.10; Cic. *Ver*. III.32.75, 33.77. Empire: e.g. Plin. *Ep*. 9.37.2-4; *CIL* VIII 10570.

[183] E.g. Gai. *Dig*. 19.2.25.6 (10 *ad ed. prov*.), discussed on pp. 172-4, below. For the Severan period see, Ulp. *Dig*. 19.2.19.3 (32 *ad ed*.); Paul. *Dig*. 47.2.83(82).1 (2 *sent*.), who recognises that stealing crops harmed both tenant and landlord; *CJ* 4.65.8 (Alex. Sev., 231). The practice was acknowledged also by Diocletian; *CJ* 4.65.21 (Diocl., 293).

[184] E.g. *P.Tebt*. II 374 (131 CE), rent for one *aroura* being 'one *artaba* of barley a year'; on the low rent, see Kruse (2002) 582-97, esp. 582-5.

[185] E.g. *P.Tebt*. II 363 (early second century); Dignas (2002) 95-106, on lease of temple property in Hellenistic Asia Minor; *idem* 110-222, on the Roman period, esp. 123-5, 176-7, with references to inscriptions.

[186] E.g. Plin. *Ep*. 9.37.2.

[187] De Neeve (1984) 15.

given entirely in kind.[188] Furthermore, in *colonia partiaria* the *fructus* was in itself the *merces*; unlike cases of exchanging *res utendae fruendae*, where, as argued above, *fructus* was the tangible representative of the actual *merces*, i.e. the reciprocal exchange of rights of use and enjoyment.[189]

An excerpt from Gaius, which mentions *colonia partiaria* and contrasts it with other types of leasing agricultural land, is of special significance for the present discussion. As far as I am aware, it preserves the only explicit reference in Justinian's *Digest* to *merces* being in *numerata pecunia*. The wording of the excerpt is as follows:

> Vis maior, quam Graeci *θεοῦ βίαν* appellant, non debet conductori damnosa esse, si plus, quam tolerabile est, laesi fuerint fructus: alioquin modicum damnum aequo animo ferre debet colonus, cui immodicum lucrum non aufertur. Apparet autem de eo nos colono dicere, qui ad pecuniam numeratam conduxit: alioquin partiarius colonus quasi societatis iure et damnum et lucrum cum domino fundi partitur.[190]

The excerpt concerns the issue of *remissio mercedis*, a remission of rent granted when crops were destroyed due to *vis maior*.[191] Gaius gives the opinion that in such a case the loss should not be bore entirely by the tenant, nor entirely by the landowner. At

[188] Ulp. *Dig*. 19.2.19.3 (32 *ad ed*.), where *fructus* was not in itself *merces*, rather *merces* was a fixed sum of money converted into agricultural yield according to a fixed ratio (*certum modum certo pretio*).

[189] E.g. Afric. *Dig*. 19.2.35.1 (8 *quaest*.) *ad finem*, where separate owners agreed to cultivate each other's land in rotation with the yield acting as rent; i.e. X granted Y *uti frui*, and in return Y granted X some other *uti frui*; Fiori (1999) 235, who claims that this excerpt cannot have referred to *colonia partiaria*; Misera (1977) 269-70, who differentiates sharecropping ('Teilpacht') from exchanging rights of usage ('Nutzungstausch').

[190] Gai. *Dig*. 19.2.25.6 (10 *ad ed. prov*.): 'Higher force, which the Greeks term "the force of god", should not be a source of loss to the lessee if his crops are damaged more than is bearable; on the other hand if the tenant farmer does not lose his considerable profit, he should bear with equanimity a slight loss. Clearly, I am speaking about a tenant farmer who hires for a fixed sum of money; on the other hand, a métayer bears both profit and loss in common with the farm's owner, much like the law in partnership'.

[191] On *remissio mercedis*, i.e. rent abatement due to *vis major*, see Mayer-Maly (1956) 140-7; Kaser (1971) 563, who focuses on the emperor's benevolence in granting it; *idem* 567, who sees the Severi as legally establishing *remissio mercedis*; De Neeve (1983); Frier (1980) 163-4; (1989-1990), with reference to earlier bibliography; Kehoe (1997) 202-6, 214-7, 221-34; Capogrossi Colognesi (1998); (2005), *non vidi*; Du Plessis (2003), *non vidi*.

the end of the excerpt Gaius adds a clarification which distinguishes between two scenarios. The rule he makes applies only to a tenant (*colonus*) who hired (*conduxit*) the land for *pecunia numerata*; it does not apply to a *partiarius colonus*, with whom the landowner already shares the risk as if they were partners (*socii*).

What is interesting here is Gaius' division of agricultural lease into two categories. Land tenure could be based on sharecropping, with rent paid in kind, its quantities altering according to level of agricultural productivity. In such cases *merces* cannot be *certa*, since the level of productivity—hence, the amount of *fructus* rendered, as well as its value—are unknown at the time of concluding the contract. The other category is that of a "regular" lease, i.e. not *colonia partiaria*. The text labels this category as a lease in which the tenant leases the land *ad pecuniam numeratam.*[192] Assuming this phrase is not an interpolation,[193] the excerpt—especially since it comes from the writings of a jurist associated with the Sabinian school—indicates, again, how customary pecuniary *merces* actually was. However, this interpretation, based on an understanding of *numerata pecunia* in the sense of cash money, offers only one way of understanding this phrase. When considering it more closely, another, more abstract, intention may be ascribed to *numerata pecunia*—literally '*pecunia* counted out'—that of a monetary unit of account. The division between *partiarius colonus* and *colonus* should be seen as a division between leases in which *merces* was uncertain, i.e. *colonia partiaria,* where tenant and landowner shared risk *quasi societatis*; and leases in which *merces* was in *numerata pecunia,* i.e. its value fixed in advance at the time of contracting

[192] Similar distinction regarding a *colonus* '*qui nummis colat*' appeas in Paul. *Dig*. 47.2.26.1 (9 *ad sab*.); also, see Kehoe (1997) 148.

[193] Contra Longo (1953) 689-90, who argues for post-classical interpolation. On *numerata pecunia* as a stylistic preference of Gaius, see pp. 175-6, below.

the lease, hence was certain. If this explanation is accepted then *numerata pecunia* should be understood as denoting the fact that *merces* was indeed *certa*.

To understand why *certa merces* meant terming it in *numerata pecunia*, let us examine an excerpt from another second-century Sabinian jurist, Javolenus:

> Si ita fideiussorem accepero: "Quod ego decem credidi, de ea pecunia mille modios tritici fide tua esse iubes?", non obligatur fideiussor, quia in aliam rem, quam quae credita est, fideiussor obligari non potest, quia non, ut aestimatio rerum quae mercis numero habentur in pecunia numerata fieri potest, ita pecunia quoque merce aestimanda est.[194]

The excerpt deals with advancing a surety (*fideiussio*) and gives the principle according to which the obligation of a *fideiussor* applies only to the *res* she or he advanced (*credere*). Therefore, when surety is given in money (here, *pecunia* of the sum of ten) it cannot be redeemed in merchandise (here, a thousand *modii* of wheat). Javolenus then explains the logic behind his ruling: while merchandise (*merx*), i.e. things which can be quantified by number, can be estimated or assessed *in numerata pecunia*, money (*pecunia*) cannot be estimated in merchandise (*merx*).[195] While a thousand *modii* of wheat may be estimated at ten monetary units of account, the same ten cannot be assessed in terms of *modii* of wheat. This, no doubt, is because prices of wheat, or of any other merchandise (*merx*) for that matter, were subject to fluctuations;[196] while money, at least according to Javolenus, was considered as having a more stable value.

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[194] Javol. *Dig*. 46.1.42 (10 *epist*.): 'Put the case that I accept a surety on the following terms: "Since I advanced ten, do you, on your honor, promise in respect of that money a thousand *modii* of grain?" The surety incurs no obligation since a surety cannot be committed for something other than what was advanced; money cannot be quantified in terms of merchandise in the way that merchandise, measured by quantity of number, may be assessed in money'.

[195] Javolenus shifts from *pecunia* to *pecunia numerata*, presumably without giving it much attention or significance.

[196] Gai. *Dig*. 13.4.3 (9 *ad ed. prov*.), discussed on Ch. 7, pp. 194-5, below.

Keeping in mind this principle, i.e. that merchandise can be estimated in money but not the other way around, let us return to Gaius' division between *colonus* and *partiarius colonus*. While in both cases, that of land tenure for a fixed rent and that of sharecropping, *merces* could be given in *fructus*, it is only in the latter that paying in *fructus* meant an uncertain *merces*. In the former case, even when *merces* was given entirely in kind its value was fixed in advance, estimated and agreed in monetary units of account;[197] therefore, making the *merces* certain.

We are left with the question, why is it that the pecuniary prerequisite in *locatio conductio* was articulated by classical Roman jurists in terms of *pecunia*, and not *numerata pecunia* as was the case with *pretium* in *emptio venditio*. To recall, in contemporaneous reports of the school controversy revolving around the issue of the pecuniary nature of *pretium* in contracts of sale, the phrase *numerata pecunia* appears only in Gaius' *Institutiones*, which opens the description of the controversy with the words '*Item pretium in numerata pecunia consistere debet*'.[198] Paul in his reports of that famous controversy does not use *numerata pecunia*, but instead talks of *nummi*.[199] In discussing *locatio conductio* both jurists display similar choice of wording: Paul talks of *merces* paid in *nummi*,[200] or in *pecunia*;[201] while Gaius, again, is the one to use the phrase *numerata pecunia* when speaking of the remuneration. In the school controversy revolving around the nature of *pretium* it seems that Gaius' *numerata pecunia* and Paul's

[197] E.g. Ulp. *Dig*. 19.2.19.3 (32 *ad ed*.), discussed on pp. 153-4, above.
[198] Gai. *Inst*. 3.141.
[199] Paul. *Dig*. 18.1.1.1 (33 *ad ed*.); 19.4.1.pr. (32 *ad ed*.).
[200] Paul. *Dig*. 47.2.26.1 (9 *ad sab*.).
[201] Paul. *Dig*. 17.1.1.4 (32 *ad ed*.); 19.5.5.2 (5 *quaest*.).

nummi referred to the same thing. Could the same be said of legal discussions on *locatio conductio*? That is, were *pecunia*, *nummi*, and *numerata pecunia* used by Roman jurists as synonyms?

We have seen that juristic definitions differentiated, at least on the theoretical level, between various verbal signifiers of the idea of money, with Ulpian, and later Hermogenian, clearly stating that *pecunia* was *non solum numerata pecunia*. However, we have also seen Javolenus' use of *pecunia* and *numerata pecunia* as synonyms;[202] and, more strikingly, Ulpian's somewhat obscure statement regarding *pecunia* and *numerata pecunia* in the context of his discussion of the *senatus consultum Macedonianum*.[203] There, the *SC* spoke of *pecunia*; however, Ulpian found it necessary to state that although the words seem to him as referring to *numerata pecunia*, still the *SC* should be understood in the broadest sense possible for *pecunia*, i.e. as referring to any kind of loan, also a non-pecuniary one. Thus, even a jurist of such calibre and eloquence as Ulpian seems to display some ambiguities regarding the conceptualisation of money; offering no clear distinctions between money's physical manifestations (e.g. coinage, *nummi*), its abstract nature as a quantifier of value, i.e. as a numeraire (*numerata pecunia*), and the fact that money is the ultimate manifestation of wealth (i.e. *pecunia* in the sense of *omnia corpora*).[204]

[202] Javol. *Dig*. 46.1.42. (10 *epist*.).
[203] Ulp. *Dig*. 14.6.7.3 (29 *ad ed*.).
[204] Ulp. *Dig*. 50.16.178.pr. (49 *ad sab*.).

To conclude, although pecuniary *merces* was probably common practice,[205] at no point throughout the period here under investigation was it obligatory for *merces* to be paid in cash money. As to the question whether it was required that *merces* be conceptualised in monetary terms, during the second century this requirement was still under legal debate.[206] On the one hand, the Sabinian stance that an exchange of *res utendae fruendae* qualified as a valid *locatio conductio* meant that in such cases, even though *merces* could be represented by tangibles, it was in its essence incorporeal, i.e. the granting of *uti frui*;[207] hence, it was not necessary for such a *merces* to be quantified in monetary terms. On the other hand, the Proculian stance, which argued that an exchange of *res utendae fruendae* did not qualify as *locatio conductio*, meant that—leaving aside the exception of *colonia partiaria*—*merces* had to be termed in *pecunia*,[208] albeit in practice it could be paid in kind.[209] By the early decades of the third century the Proculian position gained the upper hand,[210] and in late-classical Roman law pecuniary *merces* probably had become a juristic prerequisite.[211] That is, it became obligatory for *merces* in *locatio conductio* to be stated in monetary terms, just as *pretium* was in *emptio venditio*.

Again, this certainly does not imply that all exchange was conducted with money. The existence of *colonia partiaria*, the development of the *actio praescriptis verbis*, and the Sabinian-Proculian disagreement regarding the exchange of *res utendae fruendae*, all

[205] Frier (1980) 60, who says that 'we do not know of any urban lease where this [i.e. *merces* in money] was not the case'; Zimmermann (1996) 353-4; Kehoe (1997) 148-9.
[206] Mayer-Maly (1956) 130-1; Frier (1980) 60.
[207] Fiori (1999).
[208] Paul. *Dig*. 19.5.5.2 (5 *quaest*.).
[209] Ulp. *Dig*. 19.2.19.3 (32 *ad ed*.).
[210] Buckland (1932) 499, who suggests that the pecuniary requirement of *merces* 'was of late classical law'; Misera (1977) 271-3.
[211] That later in the third century monetary payment was associated with *locatio conductio* is evident in *CJ* 4.65.14 (Valer. et Gall., 259).

indicate not only that reciprocal exchange with no pecuniary remuneration surely did take place, but also that it was perceived as an integral part of exchange activity. While during the period here under investigation legal practitioners developed strict definitions for the two Roman contracts most dominant for exchange, namely *emptio venditio* and *locatio conductio*, with the outcome of eventually allocating to money a pivotal role in both, real economic activity continued to take place in all forms, pecuniary as well as in kind. Exchange could occur without money changing hands, or necessarily being involved in the conceptualisation of the transaction, as in *colonia partiaria*. However, the latter seems to have been the exception. Money was more often than not present at the minds of the parties, allowing individuals to estimate and compare the goods and services which they traded.

This chapter and the previous one have examined the institutionalised role of money in Roman exchange, observing how central it was in defining the legal procedures for trading goods and services. Money was a focal component in the legal definition of exchange transaction; therefore, in defining the status of the parties involved, and the nature of the interaction between them. Be it sale, hire, or employment; whether the transaction regarded movables or immovables; objects, livestock, or slaves; rights, services or labour; by the end of the period here under investigation money had become an essential component for defining the requital, the charge, the proceeds, i.e. the manifestation of the counter obligation, what one of the parties was to receive/render in return.

Chapter 6: Loans

> Nomina eorum, qui sub condicione vel in diem debent, et emere et vendere solemus: ea enim res est, quae emi et venire potest.
>
> Ulp. *Dig*. 18.4.17 (43 *ad ed*.)[1]

6.1. Introduction

As in the two previous chapters, the aim of this chapter is certainly not to observe *every* aspect of Roman lending there is; that would be quite impossible. Rather, it centres on loans of money; and more specifically, on the Roman legal institutional framework under which money was lent.[2] Within this discussion attention is given to the potential of creating credit money, and the attitudes towards money which may be inferred from it. The focus of the chapter, as that of the entire thesis, is on private monetary operations. As such, it centres on economic interactions where one or both parties were private individuals, conducting their affairs with or without the intervention of middlemen or intermediating institutions, such as banks,[3] municipalities,[4] temples,[5] or others.[6]

[1] Ulp. *Dig*. 18.4.17 (43 *ad ed*.): 'We are in the habit of selling and buying conditional debts and those not yet due; for there is something to be bought and sold'.
[2] The theme of charging interest on monetary loans is further investigated in Ch. 7, below.
[3] In the Greco-Roman world banks generally had operated as private enterprises, with the exception of temple- or state-banks; on which, see Bogeart (1968) 279-304, 401-8, respectively; Dignas (2002), for the former; von Reden (2007) 253-79, for the latter.
[4] E.g. Plin. *Ep*. 10.54-5; Ulp. *Dig*. 50.4.6.1 (4 *off. prov*.). On loans advanced by municipalities, see Bogaert (1968) 397-400; (1992); Sirks (1998). On loans advanced by the city of Rome, see Andreau (1999) 112-26.
[5] Howgego (1992) 14, n. 125, who refers to Bogaert (1968). Also, see Dignas (2002).
[6] Howgego (1992) 14.

Lending organisations as such are not the subject here under inquiry; on these, during the last three decades profound and scholarly studies have been carried out by distinguished scholars, investigating the organisation and regulation of banks, temples which made loans, and loan associations, as well as the social standing of bankers and other creditors.[7] However, a general note ought to be made on the implication which the existence of banks as money-based businesses had on money-handling in general, hence also on attitudes towards it. Though certainly not all money-lending was conducted with the help of bankers, and in respect of volume perhaps not even most of it,[8] still, banking institutions were a common phenomenon, and bankers were approached on various occasions by different strands of society.[9] The existence of bankers indicates that money-handling was considered as a profession which required specialisation.[10] They represent a more institutionalised form of money-handling, which specialised in making profit by developing and elaborating the ability to recover financial yields on monetary investments, namely via the instrument of interest.[11]

6.2. Some Formal Practicalities

Under Roman law there were various types of loans subject to different regulations. Loans could be, and often were, contracted via a *stipulatio*, arising verbally

[7] Andreau (1987); (1999); Bogaert (1968); (1994); (1995); (2000); (2001); Bürge (1987); Camodeca (1992); (1999); (2003); Dignas (2002); Verboven, Vandorpe and Chankowski (2008).

[8] The commonplace understanding that 'no one lends to poor men' did not evade Romans; Plu. *De vitando aere alieno*, *Moralia*, 830D, '*οὐδεὶς γὰρ δανείζει πέντι*'. On elite Roman money-lending, see Andreau (1999) 9-29; Harris (2006); Hollander (2007), who focuses on the late Republic; Rathbone and Temin (2008) 384, who argue that 'much or most [of the money lent] passed through brokers and bankers'.

[9] Howgego (1992) 14; Harris (2006) 14, who writes of credit among 'more modest people, …those with enough assets to survive, but not much if anything in the way of surplus'.

[10] As recognised already by Cicero; Cic. *Off.* 2.87. Also, see Rathbone and Temin (2008) 338-406; Verboven (2008).

[11] Interest in the Roman world is discussed in detail in the following chapter.

from question-and-answer formulae.[12] *Stipulatio*—the 'cornerstone of the Roman contractual system'[13]—enabled tailoring an agreement to the specific needs of the parties, hence was commonly applied for contracting loans.[14] Alternatively, loans could be contracted via specific legal formats; namely, *mutuum*,[15] *commodatum*,[16] and *depositum*.[17] All three created real obligations; that is, obligations which came into existence only after object(s) were transferred from lender to borrower.[18] There is no need here to detail every characteristic of these contracts;[19] suffice it to make several remarks regarding their applicability in loans of money.

Mutuum was a loan advanced for the purpose of consumption,[20] where an equivalent in kind, quantity, and value was to be repaid,[21] and in which the borrower was

[12] Paul. *Dig*. 12.1.2.5 (28 *ad ed*.). On *stipulatio*, see Gai. *Dig*. 44.7.1.7 (2 *aur*.); Pompon. *Dig*. 45.1.5.1 (26 *ad sab*.); Kaser (1971) 168-70, 538-43; Zimmermann (1996) 68-75, 82-94. On documenting stipulations, see Zimmermann (1996) 78-82; Meyer (2004) 115-50, 253-65. On stipulating penalty clauses (*stipulatio poena*), see Zimmermann (1996) 95-107.

[13] Zimmermann (1996) 89.

[14] *Idem* 90.

[15] Buckland (1963) 462-4; Kaser (1971) 530-3; 170-1, for *mutuum* in archaic Roman law; Zimmermann (1996) 153-4.

[16] Buckland (1963) 470-72; Kaser (1971) 533-4; Zimmermann (1996) 188-203.

[17] Buckland (1963) 467-70; Kaser (1971) 534-6; Zimmermann (1996) 205-19; and Ch. 8, below.

[18] In the case of *mutuum* such a transfer was called a *datio*, and included the passing of ownership rights from lender to borrower; Ulp. *Dig*. 6.1.9 (16 *ad ed*.); unlike the case with *commodatum*; Ulp. *Dig*. 13.6.9 (2 *ad ed*.); and *depositum*; Flor. *Dig*. 16.3.17.1 (7 *inst*.). On earlier evolution of *mutuum* from an immediate exchange of goods to an exchange in which there was a delay before one of the parties was reciprocated, see Kelly (1970); van den Brink (1974) 86. As pointed out by Kaser (1971) 531, n. 9, a promise for future lending was actionable only if it was issued in the form of a *stipulatio*; Paul. *Dig*. 45.1.68 (2 *ad ed*.).

[19] E.g. the passing of ownership (*dominium*), or the rendering of rights of usage (*uti frui*).

[20] English has no vocabulary for immediately differentiating *mutuum* from *commodatum*, with both contracts signified by the same word, 'loan'; Mathiowetz (2007). Following the French phrase 'prêt à usage', *commodatum* usually is translated as 'loan for use', while *mutuum* is translated as 'loan for consumption'. In German, the distinction is maintained by translating *commodatum* as 'Leihe' and *mutuum* as 'Darlehen'; Kaser (1971) 530-4; Zimmermann (1996) 188-9. In Jewish legal texts of the period a similar distinction exists, with the root ל.ו.ה used for loans where an equivalent is to be repaid, while the root ש.א.ל is used for loans where the same object is to be returned. In ancient Greek a distinction cannot clearly be detected between loans advanced for use and those in which the borrower may also consume the things loaned. On different loan agreements in Greek-Hellenistic law, namely, *δάνειον*, *χρῆσις*, *παραθήκη*, and other 'typeless' loans, i.e. loans which cannot clearly be identified as falling under these three categories, see Finckh (1962); Kühnert (1965); Roth (1970); Tenger (1993).

considered as if she or he became owners of the object(s) lent.[22] As such, *mutuum* was a most suitable form for lending money;[23] with one disadvantage, it did not account for interest payments. Any interest agreed had to be contracted separately, via either *stipulatio* or *pactum*, which augmented the *mutuum*.[24] In cases of default in repaying a *mutuum* the creditor could bring an *actio certae creditae pecuniae* (or a *condictio certae pecuniae*) against the borrower;[25] in which case the judge was to decide whether to condemn or to acquit the borrower from paying a fixed sum of money.[26]

In *commodatum* and *depositum*, however, the very same object(s) lent had to be returned; a requirement which raised difficulties for money lending, as it deprived borrowers of the benefits of money's randomness,[27] i.e. the ability to randomly replace any one piece of it with an equivalent other. In the case of *depositum*—officially, a loan advanced for the sake of safekeeping[28]—this requirement did not prevent pecuniary objects from performing one of money's essential usages: storage of wealth. However, it

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Χρῆσις, *χράω*, or *χρῆσαι* applied to loans regardless of their purpose, be it for use or consumption, i.e. whether the same object lent was to be returned or only its equivalent. *Δάνειον*, *δανείζω*, or *δανείζεσθαι* denote loans, especially of money, where the borrower may consume the loan, though consumption seems not to have been obligatory; Simon (1965) 40-44; Roth (1970) 11-15. For a more detailed discussion of *παραθήκη*, see Ch. 8, below. On the diminishing differentiation between *χρῆσις* and *δάνειον*, i.e. the process by which, starting from the late first century CE onwards, the distinction between these two formulae had gradually became blurred, see Kühnert (1965) 162; Roth (1970) 50-3, 97-99; Tenger (1993) 30-31, 50.

[21] Paul. *Dig*. 12.1.2.pr. (28 *ad ed*.); Pompon. *Dig*. 12.1.3 (27 *ad sab*.); Just. *Inst*. 3.14.pr.; Kaser (1971) 530-1.

[22] On account of a *datio*; Zimmermann (1996) 153.

[23] Paul. *Dig*. 12.1.2.1 (28 *ad ed*.); Gai. *Inst*. 3.90, who specifically includes money (*pecunia numerata*); Just. *Inst*. 3.14.pr., who lists *pecunia numerate, aere, argento, auro* among things given in *mutuum*. Kaser (1971) 530, who states that 'Das Darlehen (*mutuum*) ist der Grundtypus des Kreditgeschäfts, bei dem jemand ein Kapital einem anderen anvertraut (*credere*), damit dieser es nutze'; Zimmermann (1996) 153-4.

[24] On interest, see Ch. 7, below; on practicalities of contracting interest payments, see pp. 212f., below.

[25] Kaser (1971) 170-1, 531-2, 592-4.

[26] Rather than to estimate the sum to be paid; as in cases of *condemnatio incertae pecuniae*; Gai. *Inst*. 4.49-52; Kaser (1971) 492; and Ch. 3, p. 84, above.

[27] Money is usually represented by objects which are either identical or perceived as such; see Ch. 2, pp. 75-6, above.

[28] Ulp. *Dig*. 16.3.1.pr. (30 *ad ed*.); and Ch. 8, p. 247, below.

certainly set obstacles to depositaries who wished to make use of a deposit,[29] and to the depositors' prospects of gaining interest on it.[30] In the case of *commodatum*—a loan advanced for the sake of use, though not for consumption[31]—money (especially coinage) could be given for a specific purpose, such as examination,[32] or display;[33] and Gaius says that *pecunia* is often the subject of *commodatum*, 'for the purpose of being counted out to comply with legal form'.[34] One could easily envision instances where coins were given in *commodatum* to be assessed, or displayed by bankers.[35] In such cases coins would perform only a restricted monetary role. They did not facilitate exchange, nor did they, strictly speaking, measure value; rather, value was to be given to them. Neither did they straightforwardly store wealth; instead they acted as ornaments whose display manifested wealth. They were treated as *corpora*[36]—as specific objects given for the purpose of decoration, appearance, or calculation—and as such were deprived of money's essential characteristics of homogeneity and randomness.[37]

[29] As long as depositaries did not use deposited money in exchange transaction, there was no real difficulty to return the very same objects deposited.

[30] Eventually regulations were slightly eased to accommodate some aspects of using money deposits; see Ch. 8, below.

[31] However, see Papin. *Dig*. 16.3.24 (9 *quaest*.), who speaks of a hundred *nummi* given in *commodatum* for safekeeping, where eventually Papinian holds the transaction to be a *depositum*; see Ch. 8, pp. 248-9, below.

[32] Ulp. *Dig*. 13.6.5.3 (28 *ad ed*.); 10.1 (29 *ad sab*.).

[33] Ulp. *Dig*. 13.6.3.6 (28 *ad ed*.).

[34] Gai. *Dig*. 13.6.4 (1 *de verb. oblig*.): '*Saepe etiam ad hoc commodantur pecuniae, ut dicis gratia numerationis loco intercedant*'.

[35] Zimmermann (1996) 188.

[36] One may recall the remark made in Daube (1959) 17, concerning the unlikelihood of coins being treated as *corpora* in the case of sale; see Ch. 4, p. 118, n. 130, above. More on coins treated as *corpora* in Ch. 8, below.

[37] On which, see Ch. 2, pp. 75-6, above.

Another distinct type of monetary lending was maritime loans,[38] i.e. money advanced for the purpose of financing commerce by sea.[39] In both Roman and Greek-Hellenistic law maritime loans were subject to special regulations.[40] They were complicated transactions, in which different rules were applied for the period of the voyage, and the periods preceding and exceeding it, when the ship was in safe harbour.[41] The corpus on maritime legislation and the vast scholarship on it are beyond the scope of the present work; here suffice it to note that Roman maritime loans generally had complied with Greek-Hellenistic practice.[42] Though neither the institutional environment in which maritime lending occurred, nor the apparatus which enabled its financing,[43] remained constant; nevertheless, maritime loans probably enjoyed an enduring continuity in their legal formation, with two renowned peculiarities remaining fairly consistent. Namely, repayment of bottomry loans was conditioned by the safe arrival of the ship and its cargo;[44] and, no limit was imposed on maritime interest rate,[45] unlike on other types of

[38] These several names in ancient texts, e.g. *pecunia traiecticia*, *faenus nauticum*, *mutua pecunia nautical*, *ναυτικὸν δάνειον*.

[39] Mod. *Dig*. 22.2.1 (10 *pandec*.). Coined money *per se* probably had not regularly travelled over sea; Harris (2006) 4, with remarks on the findings of A. J. Parker's catalogue of ancient shipwrecks in the Mediterranean. Monetary loans usually financed cargo and voyage expenses [rather than obtaining a ship; Rathbone (2003)], with merchandise transported from one harbour to another, where it would then be sold and new merchandise bought with the sale money, as described in Scaev. *Dig*. 45.1.122.1 (28 *dig*.). Also, see Buckland (1963) 566-7; Kaser (1971) 532-3; Zimmermann (1996) 183-4; Sirks (2002); Rathbone (2001); (2003); Aubert (2007). Contra Litewski (1973) 120f., who postulates that originally coinage was exported by sea in order to import merchandise.

[40] *Dig*. 14.2 (*De lege Rodia de iactu*); *Dig*. 22.2 (*De nautico faenore*); *Dig*. 47.9 (*De incendio ruina naufragio rate nave expugnata*).

[41] Mod. *Dig*. 22.2.1 (10 *pandec*.); 3 (4 *reg*.); Papin. *Dig*. 22.2.4.pr. (3 *respon*.); Paul. *Sent.* 2.14.3; Scaev. *Dig*. 45.1.122.1 (28 *dig*.); on which, see Sirks (2002); Rathbone (2003) 215-6. Also, see Billeter (1898) 242-54; Buckland (1963) 466-7, n. 19.

[42] Pringsheim (1916) 143-5; Buckland (1963) 466-7; Kaser (1971) 532-3; Litewski (1973); Sirks (1991), who analyses contracts with *navicularii* for transporting food supply to Rome; Zimmermann (1996) 181-5; Rathbone (2003) 212; Guarier (2004).

[43] On the role of *societas* and agents (*institores*) in maritime commerce, see Aubert (1999); Giliberti (1999); Sirks (2002); Rathbone (2003) 212-6.

[44] The borrower was not liable for shipwreck or loss of cargo in sea, with the risk falling on the creditor; Rathbone (2003) 212-3.

interest-bearing loans;[46] with both these characteristics motivated by the same logic: allowing creditors to better face the unexpected risks involved in seafaring.

Lastly, some notes ought to be made concerning a type of agrarian loan known in the scholarship as 'Sale on Delivery' or 'Sale on Credit'.[47] This was a sort of a purchase contract, in which the seller/borrower had received a pecuniary sum, which was later to be reciprocated in kind; i.e. the sale was completed—or, more precisely, the loan repaid—with agricultural product only after harvest time.[48] Evidence for such transactions, though quite abundant, derives mainly from Roman Egypt,[49] where the Greek formulae used are considered as a late Hellenistic or early Roman development;[50] with similar practice echoed also in Talmudic sources.[51] In Roman legal sources, as far as I am aware, a transaction which may perhaps be perceived of a somewhat similar nature is attested only once; however, this is not formulated in terms of a sale, but rather in those of a *locatio conductio*, with the reciprocated party receiving a fixed amount of goods offered at a fixed price, both of which agreed in advance at the time of contracting the transaction.[52] A similar combination—of granting rights of use as rent (*μισθός*) given on

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[45] Scaev. *Dig*. 22.2.5.pr. (6 *respon*.); Paul. *Sent*. 2.14.3; *CJ* 4.33.2 (Diocl., 286). Justinian was the first to limit maritime interest rate of twelve per cent per annum; *CJ* 4.32.26.2 (Just., 528).

[46] On which, see Ch. 7, below.

[47] Pringsheim (1950) 266-86, who speaks of sales with deferred delivery; Bagnall (1977); Foraboschi and Gara (1981); Jördens (1990); Kruit (1992); Erdkamp (2005) 120-3, 131-4; Kehoe (2007) 149.

[48] Bagnall (1977) 85, who says that in many of the documents labelled 'Sale on Delivery', 'their language and terminology is closely similar to that of loan contracts, not of sales'.

[49] Bagnall (1977); Foraboschi and Gara (1981); Jördens (1990) 296-301, who offers a list of wine sales for future delivery; Rathbone (1991) 210-11, 239, who refers to 'sale in anticipation of delivery'; Kruit (1992), who gives a survey of relevant papyri, with p. 167, n. 1, offering further bibliography.

[50] Pringsheim (1950) 265-7, 285, who calls such a transaction 'a new type of contract which is neither sale nor loan'; Rupprecht (2005) 331.

[51] Rosenfeld and Minrav (2001) 255-62; referred to in Erdkamp (2005) 131; their argument further elaborated in Rosenfeld and Minrav (2005).

[52] Ulp. *Dig*. 19.2.19.3 (32 *ad ed*.); and see Ch. 5, pp. 153-4, above. Erdkamp (2005) 131-2, who considers this transaction within a discussion on advanced sale, interpreting it as 'a form of credit'.

credit, later to be paid in kind—appears also in Egyptian papyri,[53] and should be seen as a phenomenon similar to the so-called 'Sale on Delivery'.[54]

6.3. Credit Money

I start this section by recalling comments made in Chapters 1 and 2 above regarding the possibility that money initially emerged from credit and debt relations,[55] both deeply embedded in social commitments, rather than originating from strictly speaking economic interaction.[56] Whether or not money had indeed developed from credit, remains in the sphere of belief and hypothetical postulations regarding pre-historic times; regardless of the stand one takes on such matters, since the nineteenth century economists have been occupied with the close relation between money and credit. Advocators of the endogeneity of money promulgate intertwined connection between the two, arguing that credit may enable increase of the amount of money, mainly via a mechanism which economists call the "money multiplier". This "multiplier" is a ratio between deposits, bank reserves, and the currency available in the hands of the public, which allows the banking sector to react to the non-banking sector's demand for money by producing credit which increases the supply of money in the economy.[57] Within

[53] Pringsheim (1950) 262-5.
[54] Rupprecht (2005) 331.
[55] Tymoigne and Wray (2006).
[56] Innes (1913); (1914); Polanyi (1968); Grierson (1978).
[57] Friedman M. (2008) section (c) equation (9), who offers a mathematical representation of the "money multiplier"; Friedman B. (2008), who states that the "money multiplier" is 'the relationship between the total liabilities supplied by the central bank—often called the 'monetary base'—and the resulting amount of money, including bank deposits as well as currency. Purely as a matter of arithmetic, specifying the ratio of reserves to deposits that the banks choose to hold (influenced in part by whatever reserve requirements and other institutional strictures banks face), and the ratio of currency to deposits that the public chooses within its holdings of money, is sufficient to determine the quantity of money that goes along with any given monetary base set by the central bank'.

Austrian tradition of economic thought Ludwig von Mises advanced an approach which sees money as a market-generated and market-regulated mechanism, in which credit, and more specifically banking credit, constitutes a central role in enabling the system's elasticity in reacting to the demand for money.[58] Also Keynesian and post-Keynesian economists perceive money as endogenous to economic activity, allocating to the banking sector a pivotal role in determining the supply of money in accord with the demand for it by the non-banking sector; that is, money is assumed to be created by economic actors, depending on their liquidity preferences and demand for credit, as manifested in the aggregate outcome of their choices regarding loans and deposits.[59]

Clearly, not all credit is money. Credit money, to follow William Harris in evoking Ludwig von Mises' definition,[60] is 'that sort of money which constitutes a claim against any physical or legal person'. Yet, Mises constrains this definition by adding that 'these claims must not be both payable on demand and absolutely secure; if they were, there could be no difference between their value and that of the sum of money to which they referred, and they could not be subjected to an independent process of valuation on the part of those who dealt with them. In some way or other the maturity of these claims must be postponed to some future time'.[61] This means that credit money conceals some element of risk, in the sense that 'the claimant may default, [or that] the value upon fulfilment will differ from the value at the time of [contracting the commitment]'.[62] Still, in order for records of debts to be used as money there needs to be some certainty

[58] Von Mises (1953) 261-338.
[59] Moore (1988); (2006); Wray (1990); Fontana (2004); Bibow (2006); Dow (2006); Lavoie (2006); Gnos and Rochon (2008).
[60] Harris (2006) 6, n. 43.
[61] Von Mises (1953) 61.
[62] Kababji (2011).

regarding their value, which is often accomplished, legally as well as physically, via different formats for providing securities.

In recent years, scholarly discourse on ancient economic history has turned its attention to the role of credit in the Roman world, emphasising the significance of credit, and especially of credit money, in facilitating economic activity, via what is sometimes labelled "negotiable paper money"; that is, the use of records of debts, and of other commitments, as monetary instruments to store wealth and make payments.[63] If one accepts a definition of credit money as 'a claim falling due in the future that is used as a general medium of exchange',[64] then Romans were certainly familiar with it. That is, in the Roman world records of debt were regularly used as money in the sense of means of payment.[65] For example, an excerpt from Scaevola tells of an heir who had paid for a share of an inheritance with debts from his account books (*ex qua aliquam summam in nominibus ex kalendario uti daret*).[66] In addition, records of debts in themselves were often the object of sale, as openly stated by Ulpian regarding both *chirographa*,[67] and *nomina*.[68] From Ulpian's words it seems that Romans recognised uncertainties which accompany future fulfilment of debts; however, this recognition did not prevent them from buying and selling debts. Records of debt acted as money also in the sense of a means to store wealth;[69] Scaevola mentions a banker who held most of his assets in the

[63] Mrozek (1985); Howgego (1992) 14-16; Rathbone (2001) 49; (2003); Temin (2004); Hollander (2007); Harris (2006); (2008c); Rathbone and Temin (2008); Kay (2009); Lo Cascio (2011).
[64] Von Mises (1953) 62.
[65] Harris (2006); (2008c), with references to ancient evidence; Kay (2009) 147-79, with references to the early Republic.
[66] Scaev. *Dig*. 44.4.17.2 (27 *dig*.).
[67] Ulp. *Dig*. 30.44.5 (22 *ad sab*.): '*Eum, qui chirographum legat, debitum legare, non solum tabulas argumento est venditio: nam cum chirographa veneunt, nomen venisse videtur*'.
[68] Ulp. *Dig*. 18.4.17 (43 *ad ed*.), cited at the start of this chapter.
[69] Harris (2006) 7-10; Hollander (2007) 40-52; both with references to ancient evidence.

form of such records (i.e. *in nominibus*);[70] Pomponius says that all possessions of a pupil also included *quae in nominibus sunt*;[71] and Ulpian states that *peculium* may also contain records of debts (*nomina debitorum*).[72]

It remains to ask whether such records of commitments had indeed increased Rome's money supply, as decisively argued by William Harris.[73] In modern economies credit money is considered to be created thanks to a developed banking sector, regulated by a central bank, which enables the operation of a "money multiplier"; that is, a mechanism by which, via the existence of bank deposits and clearing-banks, money supply increases in accord with the demand for credit.[74] Neither a central bank nor a clearing system as such had existed in the Roman empire. Harris, while recognising these obstacles, relies on the example of early modern England,[75] and claims that 'a system with partial-reserve banking and an extensive system of legally recoverable loans can bring into existence assets that can be used for making payments';[76] that is, such a system could accommodate a mechanism that creates credit money. 'What matters here', says Harris, 'is not whether there were clearing centres…, but whether lenders had more recoverable debt than they had state-issued money, i.e. coin, in reserve'.[77] A prerequisite for credit money, he argues, is in fact 'the legal… capacity of the lender to recover [the loan] from the debtor'; a requirement which was fulfilled in Rome since 'Roman law

[70] Scaev. *Dig*. 40.7.40.8 (24 *dig*.).
[71] Pompon. *Dig*. 46.6.9 (15 *ad sab*.).
[72] Ulp. *Dig*. 15.1.7.4 (29 *ad ed*.); similarly, Julian. *Dig*. 15.1.16 (12 *dig*.), *ad finem*.
[73] Harris (2006); (2008c).
[74] Friedman B. (2008); Friedman M. (2008).
[75] As analysed by Muldrew (1998).
[76] Harris (2006) 10.
[77] *Idem* 21.

provided creditors with robust means of protecting themselves'.[78] However, evidence which suggests that economic interaction was facilitated by, or even profoundly depended on, credit arrangements,[79] does not necessarily indicate that records of debt were indeed credit money. Such records, even when they were legally recoverable, if 'the costs of recovering them would have been prohibitive… they could not possibly be used for making payments'.[80]

What transforms records of debt into monetary instruments is the ability to trade with, or/and in, it. That is, that an obligation created between X and Y could be used by Y in his transaction with a third person Z, so that X becomes liable to Z instead of to Y. A mechanism by which legal obligations are transferred from one debtor to another clearly existed in Roman law; it is called *delegatio*.[81] To delegate, as stated by Ulpian, is 'to give to the creditor or other person to whom he is directed a different debtor in one's own place'.[82] That is, a *delegatio* is 'an order given by one person (*is qui delegat*) to another (*is qui delegatur*) to pay a debt to, or to assume an obligation towards, a third person (*is cui delegatur*)'.[83] According to Harris not only that records of debt (i.e. *nomina*) were transferable, 'there was in fact a market in *nomina*',[84] facilitated via the Roman legal institution of *delegatio*.

In practice this was regularly achieved by writing entries in book-keeping accounts. Precisely such a process is described by Gaius when he talks of obligations

[78] *Idem* 6.
[79] As argued by Rathbone (1991) 227-30, for rural third-century Roman Egypt.
[80] Harris (2006) 14.
[81] *Dig*. 26.2 (*De novationibus et delegationibus*).
[82] Ulp. *Dig*. 46.2.11.pr. (11 *ad sab*.): '*Delegare est vice sua alium reum dare creditori vel cui iusserit*'.
[83] Berger (1953) 429.
[84] Harris (2006) 15.

created by writing (*litteris obligatio*) which are *in nominibus transscripticiis*.[85] Where such a *transscriptio* was in the form of *a persona in personam*, this meant that a debt registered under the name of one debtor was transferred to the name of another.[86] These so-called "paper transactions" were anything but fictitious.[87] So much so that material representations of such obligations, i.e. the documents on which debts were recorded, were perceived as "money-equivalents", i.e. as physical manifestation of money.[88] This is why Ulpian says that if someone had stolen *tabulae* or *cautiones*[89]—on which debts regularly were recorded—the thief would be held liable not only for the value of the writing materials, but also 'for what is in them' (*quod interfuit*),[90] 'which means the amount of the sum contained in the document'.[91] The same view is expressed also by Ulpian's contemporary, Paul.[92] However, elsewhere Paul displays a more complex stance, arguing that there are those who think that only an estimate of the debt could be made, although sometimes a plaintiff could perhaps recover the accounts, so as to

[85] Gai. *Inst*. 3.128: '*Litteris obligatio fit ueluti in nominibus transscripticiis. fit autem nomen transscripticium duplici modo, uel a re in personam uel a persona in personam*'. And, see Ch. 2, pp. 67-70, above.

[86] Gai. *Inst*. 3.130: '*persona in personam transscriptio fit, ueluti si id, quod mihi Titius debet, tibi id expensum tulero, id est si Titius te pro se delegauerit mihi*'. And, see Thilo (1980) 290-5, 305-18; Meyer (2004) 108-10.

[87] Meyer (2004) 109.

[88] Harris (2006) 15, who refers to two documents—*P.Fouad* 45 (Alexandria, 153) (=*FIRA* III 121 =*ChLA* XLII 1207); *CIL* III no. 5, pp. 934-5 (Albumus; Dacia, 162) (=*FIRA* III 122 =*IDR* 35)—, arguing that they show that paying with records of debt which originated in transactions made by other third persons 'was entirely standard'.

[89] Ulp. *Dig*. 47.2.27.pr. (41 *ad sab*.): '*Qui tabulas vel cautiones amovet, furti tenetur non tantum pretii ipsarum tabularum, verum eius quod interfuit: quod ad aestimationem refertur eius summae, quae in his tabulis continetur, scilicet si tanti interfuit, ut puta si chirographa aureorum decem tabulae fuerint, dicimus hoc duplicari*'. On which, see Medicus (1962) 233-4.

[90] Translation is that of Meyer (2004) 109.

[91] Translation is that of Watson (1985).

[92] Paul. *Dig*. 47.2.83(82).3 (2 *sent*.): '*Qui tabulas cautionesve subripuit, in adscriptam summam furti actione tenebitur: nec refert, cancellatae nec ne sint, quia ex his debitum magis solutum esse comprobari potest*'.

quantify the damage he would have sustained had he not recovered them.[93] This means that the value of records of debt was in fact that of the debts themselves;[94] not just because without a record creditors would find it hard to collect their investment,[95] but also because writing down such records on relatively durable yet transportable media, made the debts themselves transportable. To use the words of Elizabeth Meyer: 'The reality of debts and credits was for centuries determined by their being written into tablets, and travelled with those tablets wherever they went and into whosoever's hands they fell'.[96]

[93] Paul. *Dig*. 47.2.32 (9 *ad sab*.). And, see Medicus (1962) 234-6.
[94] It is worth making the point that generally debts were not traded at discount, as in modern markets.
[95] As may be inferred from Paul. *Dig*. 47.2.32 (9 *ad sab*.), they probably sometimes could.
[96] Meyer (2004) 110.

Part III: Study-Cases

Chapter 7: The Roman Instrument of Interest

> Ideo in arbitrium iudicis refertur haec actio, quia scimus, quam uaria sint pretia rerum per singulas civitates regionisque, maxime uini olei frumenti: pecuniarum quoque licet uideatur una et eadem potestas ubique esse, tamen aliis locis facilius et leuibus usuris inueniuntur, aliis difficilius et grauibus usuris.
>
> Gai. *Dig*. 13.4.3 (9 *ad ed. prov*.)[1]

7.1. Introduction

'Prices of things', says Gaius in this often cited[2] excerpt,[3] 'vary from one city and region to another… Even in the case of money, though it is supposed to have one and the same power everywhere',[4] in reality it does not. Money, Gaius explains, 'can be quite easily raised and at low interest in some places, with difficulty and at steep interest in others'. Four interesting points emerge from this excerpt. First, interest rates were not universal, but altered according to locality; though this alteration, as detailed below, was normally restrained by law up to a legal maximum. Second, just as consumable

[1] Gai. *Dig*. 13.4.3 (9 *ad ed. prov*.): 'The reason this action rests on the discretion of the judge is that we know how prices of things vary from one city and region to another, especially of wine, oil, and corn. Even in the case of money, though it is supposed to have one and the same power everywhere, yet it can be quit easily raised and at low interest in some places, with difficulty and at steep interest in others.' Watson (1985) translates *potestas* as 'purchasing power'; to avoid using such a modern concept, I translate it simply as 'power'.

[2] The excerpt is cited by scholars who tend to favour a market-oriented approach in analysing the Roman economy; e.g. Andreau (2000) 775; Harris (2008c) 192; as well as by those who dispute it; e.g. Bang (2008) 174, who takes it as confirming 'endemic and erratic price fluctuations' and 'strong local and regional vatiations'.

[3] The excerpt appears in discussion on *actiones utiles* available for obligations which are to be given in a fixed place, and this is also the original context within which Lenel's *Palingenesia* places the text; Lenel (1889) vol. 1, 209-10. And, perhaps the text originally appeared, like in the *Digest*, in a discussion on instances where a judge was to fix the sum paid as compensation.

[4] *Potestas* translated here as 'power', not 'purchasing power' as in Watson (1985).

commodities—wine, oil, or corn—have their price, so does money.[5] Third, interestingly enough for the current discussion, interest is considered to be the price of money. That is, where money was the focus of a transaction, such as with loans, from the creditor's perspective interest was its charge, and from that of the debtor, its cost. A connection between interest and price is attested also elsewhere in Roman legal sources. Scaevola justifies a high interest rate in maritime loans calling it *periculi pretium*, 'the price of risk';[6] and Ulpian, when discussing a claim for inheritance, parallels 'a thing and its fruits' with 'its price and the interest raised on it'.[7] The fourth point which arises from this excerpt is the connection drawn by Gaius between the scarcity of money and the rate of interest. The implied supposition is that interest functioned in a similar manner to prices of commodities:[8] dropping when money was in abundance and rising when it was scarce.[9] Such reasoning fits well with the neoclassical tradition of economic thought, which generally views money as a commodity involved in the exchange of one good for another, expecting it to function as other commodities do.[10]

Be that as it may, this chapter argues that Roman interest did not always reflect the relations between the demand for and the supply of money. Interest was a complicated and complex instrument. It was used in a variety of contexts, its rate dictated

[5] Money is frequently categorised by jurists together with commodities 'which can be measured, counted or weighed'.
[6] Scaev. *Dig*. 22.2.5.pr. (6 *respon*.).
[7] Ulp. *Dig*. 5.3.20.12 (15 *ad ed*.): '*utrum ipsius rei et fructuum an pretii et usurarum*'.
[8] Price oscillation is acknowledged also in Sen. *Ben*. 6.15.3-5, who explicitly says that the price '*non ex usu effectuve, sed ex consuetudine et annona aestimetur*'; Plin. *NH* 33.4, who takes human action as responsible for price increase. Roman prices have been the subject of much scholarly work, see Strobel (1989); Drexhage (1991); Wassink (1991); Rathbone (1996); (1997); Andreau, Briant and Descat (1997), reviewed in Cohen (2001); Svaivert and Wolters (2005).
[9] On interest rates and the 'credit crisis' of 33 CE, see Wolters (1987); Tchernia (2003); Gaia (2009), *non vidi*; Lo Cascio (2011).
[10] See Ch. 1 above.

not solely by economic forces of supply and demand, but also influenced by law, custom, and social convention. As demonstrated below, when used as a penalising instrument, interest was restricted by law; when used as a tool to create perpetual income, it was often moulded by custom;[11] and when used to provide compensation for loss, it accounted for the potential profit which could have been gained from an alternative mode of operation.

7.2. Terminology and Vocabulary

Interest is an instrument which is an outcome of obligations, as it accounts for an increase in debts. It rests on the general understanding that favours and services need to be reimbursed.[12] In modern common understanding 'interest', in its financial meaning,[13] is a fee charged on loans,[14] be these monetary or commodity loans.[15] This operational description, quite intuitive to the modern reader,[16] refers to an abstract mathematical ratio that connects what originally had been loaned, i.e. the principal, with a sum to be repaid

[11] E.g. in the context of *alimenta* interest was set at a rate which was in accord with "acceptable" monthly allowance; an allowance below a certain sum, as put by Woolf (1990) 220, would simply 'look mean'; and see discussion on pp. 225-7, below.

[12] I have no intention to hypothesise here on the origin of the practice of charging interest. See, Homer and Sylla (2005) 18, who suggest that the practice arose from increase in the amount of certain (agricultural) goods via natural production; contra Hudson (2000), who argues that ancient interest did not arise from agricultural production, and explains the existence of "normal" interest rates as based on numerical simplicity of calculation.

[13] The multiple meanings of the English word 'interest' gave rise to considerable literature in political theory, philosophy, and the history of ideas; Mathiowetz (2007), with bibliography in nn. 2-4, 12-5.

[14] Black (2002) 242, who defines interest as 'payment for a loan additional to repayment of the amount borrowed'. Einzig (1949) 373f.; Herskovitz (1952) 288; Foraboschi and Gara (1981); Homer and Sylla (2005) 18-24.

[15] Pecuniary and commodity loans coexist, nowadays, in the Roman period, and as early as the Codex Hammurabi, where interest on loans in kind (grain) was set at a higher rate than on monetary loans (silver by weight); Renger (2005); Homer and Sylla (2005) 3, 25-31.

[16] E.g. Homer and Sylla (2005), in their 710-page book entitled *A History of Interest Rates*, dedicate no section to defining interest. They simply assume that it is clear to their readers that what is under investigation is the fee charged on loans; as they put it, their book is concerned with 'just one type of variable – the rate of interest on loans' (*idem* 11).

in addition to the original loan, i.e. the interest.[17] The equation producing this ratio may at times be an easily computed one; yet, its outcome encapsulates multifarious factors. The duration of a loan,[18] the time and place of granting and repaying it, the availability of the thing(s) loaned, the identities of both debtor and creditor, the relations between them, the purpose of the loan, and the situation in which it is granted, all influence the rate of interest. Thus, somewhat similarly to Gaius' view cited above, interest can be thought of as a tool which tags an aggregate price to the components defining the conditions of a loan. These include: 1) the element of time in the sense of capitalisation, i.e. calculating current value of future earnings; 2) the availability of the thing(s) loaned;[19] 3) the element of risk, i.e. the probability of not retrieving the loan advanced; 4) the opportunity cost, i.e. the benefits which could have been received from an alternative investment; and 5) indexation, whether a general one, or one according to a specific good. Apart from indexation, whose influence on Roman interest rates may be questioned,[20] all other factors were encapsulated, in one way or another, within the Roman instrument of interest.[21]

[17] This is true for all types of interest: nominal, real (i.e. adjusted to inflation), simple or compound. Owen and Law (2005) 218, who state that 'the interest rate is the charge made, expressed as the percentage of the total sum loaned, for a stated period of time'; Homer and Sylla (2005) 10, who argue that because interest is a mathematical ratio, it suits long-term comparisons, regardless of differences in credit forms or legal systems.

[18] I.e. the 'maturity' of the loan; Homer and Sylla (2005) 7-8.

[19] I.e. the degree of accessibility, how close at hand an object is. In monetary loans this refers to both liquidity and the relation between demand for and supply of money. (Not to be confused with modern banking terminology, in which 'availability' stands for the time period, expressed in days, from the day of deposit until funds are credited to an account's collected balance and are made available for spending or investment.)

[20] Ulp. *Dig*. 26.7.7.7 (35 *ad ed*.), where depositing money for the purpose of buying land is performed via a non-interest-bearing deposit, perhaps implying that the assumption had been that the value of money would not (/could not?) depreciate.

[21] This is well acknowledged by scholars, though not always defined in such terminology; e.g. Howgego (1992); Andreau (1999); Harris (2006).

In the Roman world charging interest on loans was a common practice, and—as detailed below—a fairly regulated one. As well as being a fee charged on a loan, Roman interest was applied also in penalties, punishments, and compensation for damages; it was a device for creating a permanent stream of revenue; and a tool for assessing alternative modes of operation. It could take a pecuniary form, or be given in kind; yet, also in the latter case—whether received in goods or in services—interest was often computed in monetary terms, since money allows an easier format for making numerical calculations necessary for conceptualising interest as a ratio of a principal.

This chapter investigates the Roman instrument of interest in order to reveal its complex nature; 'complex' in the sense of both a diverse and manifold apparatus and a device which allows for new patterns of activity to be created by individuals who self-adjust their use of it to the continuously evolving system in which they operate. The chapter first gives a general survey of Roman interest rates, to be followed by a more detailed description of the legal practicalities of contracting and charging interest. It then addresses other usages of Roman interest apart from a fee charged on loans. Lastly, some general observations are made on the complexity of Roman interest and its implications regarding Roman attitudes towards money. But first, a brief description of the Latin (and Greek) terminology ought to be given.[22]

The notion of 'interest' as described above is denoted in Latin by several words. First, and probably the earliest,[23] there is *faenus*/*fenus*, literally 'what is produced';[24] a

[22] In what follows profound use has been made of the *TLL*, *OLD*, and *LSJ*.
[23] Andreau (2008) 201-3.
[24] According to the second-century grammarian Aulus Gellius, Varro had proposed an etymology for *fenus* seeing it as derived from *fetus*, 'pregnant', 'having recently given birth', 'fruitful'; Gel. 16.12.7;

word which could refer to 'gain', 'profit' or 'advantage' in general, and was regularly used to signify 'interest' as in 'the proceeds of a money loan'. Following *faenus*, there are the conjugations of the verb *faenerare*, 'to lend at interest'.[25] Towards the end of the second century BCE, and surely by the time of Cicero,[26] the word *usura*, literally 'a using' or 'enjoyment', had come to be habitually applied to designate 'interest', in the sense of 'interest paid for the use of a sum of money'.[27] Subsequently to these two words, *faenus* and *usura*, one often finds the expressions *pecunia faenebris*, 'money lent at interest'; *usura pecuniae*, 'interest on money';[28] and *pro usuris*, 'by way of-', or 'in lieu of interest'.[29] Additionally, the verb *exercere*, too, may refer to interest in the expressions *exercere pecunia*,[30] meaning 'to put money into use', hence 'to lend money at interest'; and *faenus exercere*,[31] i.e. 'to lend money at interest'. Less common expressions include the word *incrementum*, literally 'increase', 'growth', or 'addition'. *Incrementum* can refer to any increase of one's possessions, *peculium*, etc.,[32] or specifically to 'interest', i.e. 'the increase of a sum of money',[33] as in the expressions: *usurarum incrementum*,[34] meaning

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Zehnacker (1989) 362, who explains *fenus* as originating in a rural economic reality; Andreau (2008) 207; contra Hudson (2000).

[25] Lewis and Short.

[26] Andreau (2008) 201-3, who claims that it was not used in this meaning prior to the second century BCE.

[27] Zehnacker (1989) 362; Andreau (2008) 207-8.

[28] Berger (1953).

[29] Scaev. *Dig*. 29.2.98 (26 *dig*.); Pompon. *Dig*. 45.1.90 (3 *ex plaut*.); Mod. *Dig*. 22.1.44 (10 *pandec*.). On *pro usuris* in the late Republic, see Andreau (2008) 208-9.

[30] Ulp. *Dig*. 16.3.7.2 (30 *ad ed*.), who parallels placing money at interest with bankers (*nummularii*), with allowing them to make use of it (*per ipsos exercebant*), and see Ch. 8, pp. 250-1, below; 17.1.10.3 (31 *ad ed*.), where *exercere pecunia* is applied to lending money at interest and contrasted with putting it to one's own use (*quod si non exercuit pecuniam, sed ad usus suos convertit*); but, see 28.5.35.4 (4 *disput*.), where *de pecuniis quas in Italia exercebat* does not seem to refer especially to lending at interest.

[31] Mod. *Dig*. 12.1.33 (10 *pandec*.); Paul. *Dig*. 26.7.49 (2 *sent*.); Paul. *Dig*. 50.1.22.7 (1 *sent*.); Arcad. Charis. *Dig*. 50.4.18.23 (*de mun. civil*.).

[32] Tryph. *Dig*. 15.1.57.1 (8 *disput*.); Mod. *Dig*. 22.1.39 (9 *differ*.); Ulp. *Dig*. 33.8.8.8 (25 *ad sab*.).

[33] Scaev. *Dig*. 32.34.pr. (16 *dig*.), where interest due on a principal sum (*sorti usuris*) is called *incrementum*.

[34] Papin. *Dig*. 16.3.24 (9 *quaest*.).

'an increase by way of interest'; *cum incremento*,[35] literally 'with the increase', but can also mean 'together with interest';[36] and *ex incremento*,[37] i.e. 'from the increase/interest'. The word *impendium*, meaning 'expenses', or 'layout', was used with 'interest' in mind during the late Republic;[38] however, I was not able to detect *impendium* in the strict sense of 'interest'in classical Roman legal texts.[39]

In Greek documents of the period 'interest' is denoted most commonly by the word *τόκος*,[40] which stands for 'offspring, of either men or animals', but also the 'produce of money lent, hence, interest';[41] and, accordingly, *ἔντοκος*, signifying 'bearing-interest'.[42] *Ἡμιόλιον* is a name of a special type of interest at a rate of fifty per cent, often used as a penalty.[43] And *διάφορον*, literally a 'difference', is also used in the sense of interest,[44] i.e. 'the difference between what the borrower receives and what he repays'.[45] Lastly, in later periods, starting probably from the fourth century, *ἐπικέρδεια* was also

[35] Ulp. *Dig*. 50.8.2.2 (3 *opin*.).

[36] But, see Scaev. *Dig*. 26.7.58.pr. (11 *dig*.), who differentiates *usura*, 'interest', from *incrementum*, 'an increase of profits', since interest can be computed without calculating profits, i.e. without taking expenses into account; see p. 235, n. 281, below.

[37] Papin. *Dig*. 34.1.9.pr. (8 *respon*.).

[38] Var. *LL* 5.183; Andreau (2008) 203-4.

[39] Examples for *impedium*/*impensa* in the general sense of expenses are abundant; e.g. Gai. *Dig*. 3.3.46.6 (3 *ad ed. prov*.); 13.6.18.2 (9 *ad ed. prov*.); Ulp. *Dig*. 25.1.14 (5 *regul*.); 43.8.2.40 (68 *ad ed*.). The closest I could find for the use of *impedium* with interest in mind is Marcel. *Dig*. 36.1.46.1 (15 *dig*.), where *impedium* seems to reffer to the efforts/expenses which occur due to puting money out at interest; however, also here, *impedium* does not refer, strictly speaking, solely to interest.

[40] Paul. *Dig*. 16.3.26.1 (4 *respon*.); Mod. *Dig*. 50.12.10 (1 *respon*.). *Τόκος* is widely attested in papyri; e.g. *P.Oxy*. XLVII 3351 (Oxyrhynchos, 34); *P.Harr*. I 85 (Oxyrhynchos, 117); *BGU* I 301 (Artisonite Nome, 157); *BGU* V 1210 (Arsinoite Nome, 150-161); *P.Oxy*. VIII 1132 (Oxyrhynchos, after 162); to name only several examples. Also, see Montevecchi (1988) 226-9.

[41] *LSJ*, τόκος II.2. However, see Hudson (2000) 132, who claims that 'the "birth" or "calf/kid" metaphor for interest thus referred to "baby fractions", not literally baby animals'.

[42] Often appearing together with *χρῆσις*; e.g. *P.Corn*. 7 (Karanis, 126) ll. 6-7; *P.Col*. X 259 (Ptolemais Euergetis, 146) l. 10; *P.Ryl*. II 175 (Theadelphia, 168) ll. 16-17; Roth (1970) 35-55; Tenger (1993) 43-7.

[43] See pp. 206-7, below.

[44] *LSJ*, *διάφορον* II.4.b., which gives as possible meanings 'ready money, cash'; 'sum of money'; 'price'; and 'interest', with *P.Oxy*. VII 1040 (Oxyrhynchos, 225), as an example for the latter. Lewis (1945), who cites further papyri in which *διάφορον* means 'interest'.

[45] E.g. *P.Oxy*. XXII 2350 (Oxyrhynchos, 223), col. I, l. 21; Lewis (1945) 128, who observes that it is 'used only of interest in kind on loans in kind', and gives references to more papyri.

used to denote interest; [46] however, as far as I am aware, this use is unattested for the period here under investigation.

7.3. Interest as a Fee charged on a Loan

Interest-bearing loans were known in Rome since early Republican times,[47] and were at the heart of several of the Republic's fiercest social and political struggles.[48] Under the empire, charging interest on monetary loans was a common financial practice, subject to some degree of regulation.[49] The decision whether to charge interest,[50] and if

[46] *Ἐπικέρδεια* in the sense of 'interest' derives from the verb *ἐπικερδαίνω*, 'to gain additionally', or 'gain besides'; e.g. *P.Oxy*. XLV 3266 (Oxyrhynchos, 337); *P.Giss*. 53.4 (unknown origin, fourth century); *P.Stras*. VII 620 (unknown origin, fifth century); *P.Mich*. XI 607 (Antinoopolis, 569).

[47] Billeter (1898) 116-33; Barlow (1978) 13-46.

[48] Billeter (1898) 115-77; Barlow (1978).

[49] References in the legal sources are discussed below. Egipgraphy, too, gives evidence for the regulated environment of Roman money-lending; e.g. *Lex de Gallia Cisalpina* (49-42 BCE), Chs. XXI-XXII on *pecunia certa credita*, in Crawford (1996) no. 28, pp. 461-77.

[50] Interest-free loans were far from unheard of in the Roman world; e.g. Tryph. *Dig*. 3.5.37(38) (2 *disput.*); *SB* VI 9190 (Talao, 131), although here perhaps an additional contract (a *δάνειον*), which did not survive, included interest. Pestman (1971), who argues that, even though some loans which appear as bearing no interest were indeed interest-free, still, in some cases—and Pestman argues that in many—interest was paid, either in kind, or included within the sum stated in the contract, which comprised of both principal and interest; e.g. *P.Oxy*. XLVII 3351 (Oxyrhynchos, 34). Andreau (1999) 140-3, who attributes a significant role to interest-free monetary loans, though lessens their importance in imperial Rome in comparison with their centrality in classical Athens, at least according to Millett (1991). Although interest-free loans may have been of lesser political importance during the empire than under the Republic (especially the later Republic), it does not reduce their economic significance.Tenger (1993) 24-5, 28-31, who argues that for the first two centuries CE interest-free *δάνειον*, as well as *χρῆσις*, were largely rare, nevertheless hypothesises that *χρῆσις* originally was a form of interest-free credit. Interest-free loans were advanced by individuals to communities or friends; e.g. the well-cited example of Cicero providing funds to his son durring the latter's stay in Athens, Cic. *Att*. 12.24.1; 12.27.2; 12.32.2; 13.37.1; 14.7.2; 14.16.4; 14.20.3; 15.15.4; 15.17.1; 15.20.4; 16.1.5; Andreau (1999) 20-1; to family members; e.g. Plin. *Ep*. 3.19.8; *BGU* I 70 (Arsinoite Nome, 131) (=*Chrest. Mitt*. 175), which records an interest-free loan (*χρῆσις*) between daughter and mother; and occasionally by emperors to their subjects; e.g. Suet. *Aug*. 41.2; HA *Al. Sev*. 21.2; 26.2; 40.2 (not to overlook the problematic nature of the HA, but just to demonstrate that the notion of interest-free loans advanced by an emperor was acceptable also in later periods).

so at what rate, as well as the repayment settlements of both principal and interest, varied according to the type of loan in question and the specific arrangement of the agreement.[51]

Unlike nowadays, where state intervention tends to influence a minimum rate of interest, in Rome the state intervened to set a maximum rate; and this can be traced back as early as the Twelve Tables.[52] During the Republic, the interest rate was restricted by law several times and for some periods was banned altogether.[53] In the late Republic a maximum legal rate was re-enforced by Sulla's *Lex Cornelia Pompeia* of 88 BCE,[54] and again in 51 BCE, setting it at a rate of one per cent per month, or twelve per cent per annum, known as *centesimae usurae*.[55] This yearly rate of twelve per cent continued to be the maximum legal rate on normal loans throughout the first three centuries CE.[56]

Interest on bottomry loans was a different matter. In both Roman and Greek-Hellenistic law maritime loans were subject to special regulations.[57] Due to the unexpected dangers inherent in seafaring, not only was repayment conditioned by the safe arrival of the ship and its cargo;[58] but also no limit was imposed on maritime interest

[51] Papin. *Dig*. 16.3.24 (9 *quaest*.), with *lex contractus* referring to the conditions of the contract in question, here either *commodatum* or *depositum*, decided by Papinian to be a *depositum* combined with an agreement on interest payments; this excerpt is discussed on Ch. 8, pp. 248-9, below.

[52] Tac. *Ann*. 6.16. The question which rate is implied by *fenus unciarium* lies beyond the chronological scope of the current research. In favour of a rate of eight and a third per cent per annum, see Billeter (1898) 115-33, 157-62; Frank (1933-40) vol. I, 17; Barlow (1978) 13-54. In favour of a rate of a hundred per cent per annum, see Zehnacker (1980); Andreau (1999) 90-1.

[53] Interest was banned in the *lex Genucia* (342 BCE) and perhaps again during the second century BCE; Billeter (1898) 134-57, esp. 144-53; Frank (1933-40) vol. I, 28-32; Barlow (1978) 55-60.

[54] Billeter (1898) 163-77; Barlow (1978) 145-231; Andreau (1999) 91-2. The question whether this *lex* set the maximum rate at eight and a third, or twelve per cent per annum lies beyond the chronological scope of this study; Billeter (1898) 157-62; Frank (1933-40) vol. I, 268-70; Barlow (1978) 122-4.

[55] Cic. *Att*. 5.21.13; Billeter (1898) 169-77; Barlow (1978) 172-3, 186-7; Zehnacker (1980); Visky (1983) 75.

[56] Paul. *Sent*. 2.14.2; 4; *CJ* 4.2.8 (Diocl., 293); Billeter (1898) 169-74, 179-81, 267-75; Frank (1933-40) vol. I, 352; Kaser (1971) 496-7; Visky (1983) 74-6; Andreau (1999) 92.

[57] *Dig*. 14.2 (*De lege Rodia de iactu*); *Dig*. 22.2 (*De nautico faenore*); *Dig*. 47.9 (*De incendio ruina naufragio rate nave expugnata*); and Ch. 6, pp. 184-5, above.

[58] Rathbone (2003) 212-3.

rates. The reason for this is openly ascribed to the arbitrariness of the risk involved in seafaring.[59] To make hazardous maritime ventures attractive to lenders, the latter were permitted to collect higher returns on their investment,[60] the high interest rates compensating for the risk they bore.[61] The conclusion is trivial: interest acted as a risk management instrument, with the possibility of not retrieving a loan embedded in the rate of interest.[62]

Interest was intertwined with risk assessment, i.e. the prospect of default in repayment, also in other respects. A creditor was entitled to benefit from interest payments, because it was her or his property which was put at risk.[63] One of the criteria for determining when interest was to be paid was whether or not the non-owner made use of the sum in question, thereby taking a risk on it. As a general rule, the one using the money (*qui in usus suos convertit*) was obliged to pay interest on it; and this applied to debtors,[64] tutors,[65] and business partners.[66] In cases of agency (*mandatum*), as a general

[59] Paul. *Sent*. 2.14.3; Scaev. *Dig*. 22.2.5.pr. (6 *respon*.), who makes a clear connection between maritime interest and *periculum*; *CJ* 4.33.2 (Diocl., 286). Only in the sixth century did Justinian impose a limitation on maritime interest setting it at twelve per cent per annum; *CJ* 4.32.26.2 (Just., 528).

[60] On measures taken by Roman imperial authorities to encourage maritime commerce, especially affecting the *annona*, see Suet. *Cl.* 18.2-19; Ulp. *Dig*. 14.1.1.18 (28 *ad ed*.); Sirks (1991), 40-4, 61-7; (2002) 139; Rathbone (2003) 207; Aubert (2007).

[61] Scaev. *Dig*. 22.2.5.pr. (6 *respon*.).

[62] Managing risks is not expressed solely via interest rates; guarantees—advanced by either debtors or guarantors—are also an important tool for risk management. For a recent discussion on risk management in the Roman empire, see Jakab (2009). There were also other remedies for managing risk, e.g. *remissio mercedis*; on which, see Ch. 5, p. 172, n. 191, above.

[63] Papin. *Dig*. 6.1.62.pr. (6 *quaest*.); Marcel. *Dig*. 36.1.46.1 (15 *dig*.). And, Mod. *Dig*. 22.2.1 (10 *pandec*.); Papin. *Dig*. 22.2.4.pr.-1 (3 *respon*.), on maritime loans.

[64] Paul. *Dig*. 20.2.8 (2 *sent*.).

[65] Ulp. *Dig*. 26.7.7.4; 10 (35 *ad ed*.); Scaev. *Dig*. 26.7.58.1 (11 *dig*.). However, a tutor who lent his ward's money under his name is not considered to have put it into his own use; Paul. *Dig*. 26.7.46.2 (9 *respon*.).

[66] Pompon. *Dig*. 17.2.60.pr. (13 *ad sab*.). However, a member of a partnership (*societas*) who lent out money from the common fund under his own name bore the risk himself, hence was eligible to collect the interest; Paul. *Dig*. 17.2.67.1 (32 *ad ed*.).

rule, it was the owner who bore the risk, hence was the one to enjoy interest payments.[67] Accordingly, any interest collected by a *procurator*,[68] whether or not he was given a mandate to do so, was to be rendered to the owner.[69] Only if an owner directed a *procurator* to lend money at a certain interest, and the *procurator* had managed to receive a higher interest rate at his own risk ('*faenerare periculo suo ita*'), could he (i.e. the *procurator*) enjoy the additional profit.[70] Since the *procurator* was considered to have received the money as if it was a loan ('*in creditam pecuniam videtur accepisse*'[71]), it became his property, and he was entitled to keep the surplus interest. A *procurator* who was instructed to advance an interest-free loan and had then lent the money at interest, acted in conflict with his mandate, and any interest collected on the sums loaned was to be rendered to the (risk-bearing) owner. If, however, the *procurator* lent at his own risk—acting as owner, as if he was given the money as a loan—he might keep for himself the profits from interest.[72]

[67] Cels. *Dig*. 17.1.48.1 (7 *dig*.). Where an owner explicitly agreed to take on the risk while rendering interest profits to another, the agreement lay beyond the scope of a mandate; Cels. *Dig*. 17.1.48.2 (7 *dig*.).

[68] In private Roman law a *procurator* was a person who was authorised to administer the affairs of another; Ulp. *Dig*. 3.3.1.pr. (9 *ad ed*.). 'Normally such an agent was a freedman (sometimes even a slave). Procuratorship was distinguished from MANDATUM (in a technical sense) which referred to an authorization to perform a certain act whereas the *procurator omnium bonorum* acted either under a general authorization or, at times, as a *negotiorum gestor* and for an absent principal'; Berger (1953) 654.

[69] Ulp. *Dig*. 17.1.10.3 (31 *ad ed*.), where '*sive ei mandavi sive non*' seems to refer to lending; but lending without a mandate is easily *furtum*; thus, *mandavi* here should be understood as relating to the interest. The *procurator* who collected interest—with or without a mandate—had to turn it over to the owner. The *bonae fidei* nature of the mandate underlying the *procura* requires this, since a *procurator* was expected not to profit from the property of another; Ulp. *Dig*. 17.1.10.3 (31 *ad ed*.). A *procurator* could not one-sidedly convert a sum recieved under a mandate to his own use, as if it was a loan; Afric. *Dig*. 17.1.34.pr. (8 *quaest*.).

[70] Ulp. *Dig*. 17.1.6.6 (31 *ad ed*.).

[71] Ulp. *Dig*. 17.1.6.6 (31 *ad ed*.), *ad finem*.

[72] Ulp. *Dig*. 17.1.10.8 (31 *ad ed*.).

Roman jurists often refer to the notion of a legal maximum interest rate;[73] talking of a *legitimum modum* of interest,[74] a *licitum* or *illicitum* interest,[75] or simply *legitima usura*,[76] i.e. 'the legal interest'. This interest was restricted not only percentage-wise, but also in absolute terms; as it could not have produced a yield higher than twofold the amount of the principal,[77] regardless of the agreed upon interest rate or the duration of the loan.[78] Detaching the total amount due as interest from the duration of the loan has to do with moral aspects intertwined in the Roman notion of interest-bearing. Not all interest-profits were considered morally appropriate, as is demonstrated by setting a legal upper-cap for interest rate. That restriction, however, was insufficient in maintaining interest-profits at levels which Romans deemed "reasonable". A need was felt to further restrain interest-profits by fixing a stable ratio between principal and interest, restricting the total amount paid as interest to be a multiple, twofold, of the principal.[79] Following similar

[73] In the *Digest* the *centesima* is rarely given as the maximum legal rate; Papin. *Dig.* 22.2.4.pr.-1 (3 *respon*.); on which, see Billeter (1898) 267, who holds *legitima usura* in 22.2.4.pr., as parallel with *centesima* in 22.2.4.1. This is easily explained away by the fact that the legal maximum under Justinian varied from the *centesima*; therefore, the compilers preferred referring to a general term rather than to a specific rate no longer in use; Billeter (1898) 267-8.

[74] Ulp. *Dig*. 12.6.26.pr. (26 *ad ed*.); 13.4.2.8 (27 *ad ed*.); Paul *Dig*. 20.2.8 (2 *sent*.).

[75] Ulp. *Dig*. 13.7.11.3 (28 *ad ed*.); Ulp. (Papin.) *Dig.* 19.1.13.26 (32 *ad ed*.); Paul. *Dig*. 22.1.20 (12 *ad sab*.); Mod. *Dig*. 22.1.44 (10 *pandec*.).

[76] Ulp. (Papin.) *Dig.* 19.1.13.26 (32 *ad ed*.); Papin. *Dig*. 20.1.1.3 (11 *respon*.); 22.2.4.pr.-1 (3 *respon*.); Ulp. *Dig*. 26.7.7.4; 10 (35 *ad ed*.); Pompon. *Dig*. 45.1.90 (3 *ex plaut*.).

[77] That the total sum paid as interest should not surpass the amount of the capital seems to have been the case also in Ptolemaic Egypt; Tenger (1993) 25-6. A notion of 'double the original amount' appears also in Greek documents of the period in the context of both the *νόμος τῶν παραθηκῶν*, where a *duplum*-penalty doubled the principal amount in cases of default in repayment; see Ch. 8, pp. 257-9, below; and the *νόμος τῶν ἀραβόνων*, where a seller breaching a contract had to pay the buyer double the amount of the *arra*, i.e. earnest-money, a payment made at the time of contracting a transaction given as first instalment on the price or wages; Pringsheim (1950) 333-429; Thomson (1970); Visky (1974); (1975).

[78] Ulp. *Dig.* 12.6.26.1 (26 *ad ed*.); Ulp. (Papin.) *Dig.* 19.1.13.26 (32 *ad ed*.); Papin. *Dig.* 22.2.4.1 (3 *respon*.). On the duration of loans in Roman Egypt in the first and second centuries CE, see Tenger (1993) 19-23, 37-43, 55-9, 73-4; on the relation between the total sum paid as interest and the duration of loans, *idem* 25-6, esp. n. 85.

[79] This was a well-known limit; e.g. *SB* XX 14401 (Arsinoite Nome, 147), which records a petition of a certain Ptolemaeus to the *epistrategos* P. Marcius Crispus, complaining against a moneylender who had taken usurious interest so that in a few years Ptolemaeus got eight times the capital 'although it is

logic, compound interest (*usura usurarum*) was also prohibited,[80] being considered '*contra leges et sacras constitutiones*'.[81]

Setting a legal maximum did not prevent higher rates from being charged;[82] even though legally these were largely unenforceable in court, even as a penalty.[83] Legal sources tend to produce skewed data in the sense that higher illegal rates—perhaps commoner in real economic life—fail to enter juristic literature on account of their illicitness.[84] Such rates were certainly charged, as is evident from both the repeated strictures against them,[85] and their presence in documentary evidence.[86]

Two categories of interest higher than twelve per cent should be regarded as more institutionalised. First, there is the Hellenistic practice of *ἡμιόλιον*, a penalty-interest at a rate of fifty per cent the original sum,[87] which continuously appears in documentation,

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forbidden for anyone to exact more interest than the sum of the capital over the whole period of the loan' (ll. 18-20).

[80] Marcian. *Dig*. 22.1.29 (14 *inst*.); Ulp. *Dig*. 12.6.26.1 (26 *ad ed*.); 50.8.2.5 (3 *opin*.).

[81] Mod. *Dig*. 42.1.27 (1 *respon*.).

[82] E.g. Ulp. *Dig*. 12.6.26.pr. (26 *ad ed*.); *SB* XX 14401 (Arsinoite Nome, 147).

[83] Mod. *Dig*. 22.1.44 (10 *pandec*.). Debtors could only be sued up to the legal maximum; Papin. *Dig*. 22.1.9.pr. (11 *respon*.); Marcian. *Dig*. 22.1.29 (14 *inst*.); Scaev. *Dig*. 3.5.34(35).3 (1 *quaest*.), who takes an illegal interest rate as a reason which may exempt from payment. But see Ulp. *Dig*. 13.4.2.8 (27 *ad ed*.), discussed on p. 221, n. 186, and p. 236, below.

[84] According to the famous *Gnomon of the Idios Logos*, *BGU* V 1210 (Theadelphia, second half of the second century) ll. 235-6, in Roman Egypt not only creditors of usurious loans were penalised, debtors too were punished by confiscation of a quarter of their possessions; on the *Idios Logos*, see Swarney (1970); Amelotti (2007/8). Such a regulation is likely to have reduced the motivation of debtors to bring to court cases where illegal interest rates were imposed; Roth (1970) 48; Tenger (1993) 24-6; though it did not prevent such complaints; e.g. *SB* XX 14401 (Arsinoite Nome, 147); *P.Fouad* 26 (Arsinoite Nome, 158/9).

[85] Papin. *Dig*. 22.1.9.pr. (11 *respon*.); Mod. *Dig*. 22.1.44 (10 *pandec*.); Billeter (1898) 257-8.

[86] E.g. *CIL* V 5134 (Bergomum, second or third century), 15%; *Stud. Pal*. XXII 4 (unknown origin, 127/8), Col. 3 l. 12, *δ[ρ]αχ[μῆς καὶ ἡ][η]μιβολι τῆς μν[ᾶ]ς κατὰ μ[ῆνα]*, i.e. 13%; *SB* XX 14401 (Arsinoite Nome, 147), ll. 9-11, *στατηριαίους τόκους*, interest of a stater per mina per month, i.e. 48% [see Whitehorne (1991)]; *P.Fouad* 26 (Arsinoite Nome, 158/9), l. 46, *τόκους στατηριαίους*, i.e. 48%; *P.Mert*. I 23 (Oxyrhynchos(?), late second century), ll. 10-11, *τόκου ἑκάστης μνᾶς κατὰ μῆνα δραχμὰς / τέσσαρες*, i.e. 48%. Also, see Billeter (1898) 227, 2354-5, 285-6; Roth (1970) 96-8, who claims that usurious interest rates were achieved by stating in the document an amount which accounted for both principal and interest; Pestman (1971), who offers similar logic; Tenger (1993) 60.

[87] Where *ἡμιόλιον* does not stand for a penalty or interest, it can mean 'one and a half'; but, see Billeter (1898) 260-5, who had shown that where referring to a penalty-payment *ἡμιόλιον* should be read 'half as

before, throughout, and after the period here under investigation.[88] Penalties set at a rate of fifty per cent appear not only in loans, but also in contracts of sale,[89] lease,[90] 'Sale on Delivery',[91] and cession of land.[92] In monetary loans *ἡμιόλιον* generally acted as a penalty at the rate of fifty per cent of the original loan, and was usually agreed upon in addition to interest.[93] In loans in kind, however, *ἡμιόλιον* often was no penalty, but rather the agreed upon interest at a rate of fifty per cent,[94] where a third part of the repayment (i.e. half the principal) was to be accounted for the interest.[95]

Second to be considered as somewhat institutionalized, are Egyptian interest rates. In Ptolemaic Egypt the maximum legal interest was set at two *obols* per *mina* per month,

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much' (i.e. fifty per cent, rather than one hundred and fifty per cent). A penalty of half the original amount is attested in the *Tabula Heracleensis*, l. 43: '*pecuniam et eius dimidium*'—known as the *Lex Iulia Municipalis*, traditionally attributed to Julius Caesar, but see Giovannini (2004), in favour of the eighteenth-century dating to the 90s BCE—; Crawford (1996) no. 24, pp. 355-91; Giovannini (2004); (2008). Roth (1970) 98, who argues that during the second century loans were contracted more via the *παραθήκη* formula and less via *δάνειον*, with the *ἡμιόλιον* as a penalising clause replaced by that of the *duplum*; on the *duplum* and the *νόμος τῶν παραθηκῶν*, see Ch. 8, pp. 257-9, below. On the unclear relation between *ἡμιόλιον δάνειον* and the *duplum παραθήκη*; see Klami (1989) 90.

[88] E.g. *P.Oxy*. XLVII 3351 (Oxyrhynchos, 34), ll. 9-12 (with *ἡμιόλιον* appearing in l. 10); *P.Mich*. IX 566 (Hiera Nesos, Arsinoite Nome, 89), ll. 10-11, the loan is of the type of *χρῆσις*; *P.Ups.Frid* 3 (Oxyrhynchos, 122/3), l. 9; *P.Vind.Worp*. 10 (Soknopaiu Nesos(?), 143/4), ll. 4-5; *P.Oxy.Hels*. 36 (Oxyrhynchos, 167); *PSI* XII 1253 (Oxyrhynchos, 186), ll. 14-15; *SB* XVI 13030 (Alabastrine, Hermopolite Nome, 205), l. 9; *P.Oxy*. LXX 4772 (Oxyrhynchos, 213/4), l. 20; Billeter (1898) 258-266.

[89] E.g. *BGU* II 542 (Athenas Kome, 165); *SB* VIII 9906 (Ptolemais Euergetis, 193/4).

[90] E.g. *SB* XX 14338 (Oxyrhynchos, 120); *P.Oxy*. III 502 (Oxyrhynchos, 164).

[91] Bagnall (1977), with references to papyri mainly from the fourth century; Foraboschi and Gara (1981); Kruit (1992). On 'Sale on Delivery', also see pp. 185-6, above.

[92] E.g. *SB* XVIII 13764 (Arsinoite Nome, 143-161); *P.Stras*. IX 831 (Tebtunis, 162/3); *SB* XXII 15326 (Karanis, 223-235).

[93] Both terms appear side by side in loan documents; *BGU* I 339 (Karanis, 128), l. 20, *τῶν τόκων [καὶ] ἡμιολίας*; *P.Oxy*. XLIV 3198 (Oxyrhynchos, 145/6 or 170/1), ll. 14-15, *μεθ' ἡμ̣ιολία[ς καὶ] / [τὸ]ν τόκον*; *BGU* I 238 (Arsinoite Nome, second or third century), l. 3, *ἡμιο[λ]ίᾳ καὶ τόκοις*; *PSI* XII 1253 (Oxyrhynchos, 186), l. 15, *ἡμιολίας καὶ τόκον*; *P.Oxy*. LXXI 4828 (Oxyrhynchos, 195) col. I, ll. 19-20, (and again in col. II, ll. 15-19); *P.Mert.* 1 25 (Oxyrhynchite Nome, 214), l. 13, *ἡμιολία[ς τὸν] τόκον*; and perhaps *SB* XVI 13030 (Alabastrine, Hermopolite Nome, 205), ll. 9-10, *ἀποδῶ τὸ μὲν κεφάλαιον σὺν ἡμιολίᾳ / [τοὺς δὲ τόκους ἁ]πλοῦς*. Also, see *P.Oxy*. XXII 2350 (Oxyrhynchos, 223), recording a loan in kind with no interest charged, which states *ἡμιόλιον* penalty to be paid in the case of default.

[94] E.g. *P.Oxy*. VII 1040 (Oxyrhynchos, 225), a loan of wheat with an agreed interest of fifty per cent, *ἐπὶ διαφόρῳ ἡμιολίας* (l. 10). Also, see Roth (1970) 14-15, 96-7, who argues that *ἡμιόλιον* was applied as a fifty per cent interest rate mainly in in-kind *δάνεια* contracts and only rarely in *χρῆσις*; Bagnall (1977) 94, who says that the '*hemiolia* … on loans in kind, was very common in Egypt through the centuries'.

[95] *CTh* 2.33.1 (Const., 325).

i.e. twenty-four per cent per annum.[96] Shortly after the beginning of Roman rule in Egypt the Roman maximum—half that of the Ptolemaic—was introduced; however, it was only gradually enforced.[97] Even as late as the second century CE one finds interest at the rate of twenty-four per cent.[98] Both the *ἡμιόλιον* and the Egyptian adherence to the Ptolemaic maximum indicate how deeply rooted Hellenistic monetary practices were. They also serve as a reminder that Roman law provided only part of the framework within which economic interaction occurred. Roman legal sources may represent some of the actual practices taking place, but certainly not all of them. Hence, they ought to be constantly checked against other historical records produced at lower levels of the bureaucracy preserved in documentary evidence.

Although rates higher than the legal maximum of twelve per cent were certainly imposed, evidence shows that rates notably lower were quite common.[99] In papyri from Roman Egypt one finds loans at twelve per cent interest,[100] but also many loans at lower rates, often ranging between six and eight per cent.[101] In epigraphic evidence, mainly

[96] E.g. *P.Köln* V 218 (unknown origin, 215/4 BCE), l. 9, '*δύο δραχμῶν τὴν μνᾶν τὸν μῆνα ἕκαστον*'. See Roth (1970) 31; Montevecchi (1988) 226; but, see Tenger (1993) 24, n. 78, for twenty-five per cent (i.e. a quarter).

[97] Tenger (1993) 24-5, esp. n. 82, with reference to relevant papyri.

[98] *P.Fouad* 51 (Tebtunis, 126), 24%; *P.Oxy.* VIII 1132 (Oxyrhynchos, shortly after 162), ll. 14-15, 24%; Roth (1970) 45-7.

[99] Obviously twelve per cent interest was also in use; e.g. Paul. *Dig*. 12.1.40 (3 *quaest*.); Plin. *Ep*. 10.54, for private loans in Bithynia (prior to the period here under investigation); *P.Oslo* II 40 B (Oxyrhynchos, 150), l. 32; *SB* XVI 13030 (Alabastrine, Hermopolite Nome, 205), l. 6; *CIL* III p. 930-1 (Deusara, 162) (=*IDR* 33) and *CIL* III pp. 934-5 (Albumus, 162) (=*IDR* 35), both from Dacia.

[100] E.g. *P.Kron*. 11 (Tebtunis, 120); *SB* VIII 9923 (Ptolemais Euergetis, 175/6); *P.Giss*. I 33 (Hermopolis, 222). In some papyri *τόκους* is mentioned without stating a specific rate; e.g. *P.Kron*. 11 (Tebtunis, 121); in others *ἔντοκος* without specifying a rate; e.g. *P.Corn*. 7 (Karanis, 126); *P.Col.* X 259 (Ptolemais Euergetis, 146). Some scholars assumed that in such cases a twelve per cent interest rate should be understood; Finckh (1962) 36; Schreiner (1963); Kühnert (1965) 97; but, see Roth (1970) 46-7, for the possibility that reference to interest with no specified rate was used to conceal usurious rates; also Pestman (1971); Bagnall (1977); Tenger (1993) 43-7, who, although refuting some of Roth's examples, does not deny the possibility of concealing usury, e.g. *BGU* XI 2043 (Soknopaiu Nesos, 150).

[101] *P.Oxy*. XXXVI 2774 (Oxyrhynchos, 129), ll. 8-9, 6%; *P.Oxy*. I 98 (Oxyrhynchos, 141/2), 1.71%; *P.Oxy*. III 506 (Oxyrhynchos, 143), 6%; *P.Stras*. I 52 (Hermopolis, 151), 8 %; *P.Harr*. I 66 (unknown origin,

from the western provinces, interest raised on perpetual foundations—either private or imperial—was often set at a rate of six or five per cent per annum.[102] In legal sources, we find Papinian's testimony of a loan agreement with an interest rate lower than the legal maximum, where twelve per cent would apply only where a default in repayment occurred.[103] Although jurists often refer to an upper-cap on interest rate, the few rates which are actually preserved are often significantly lower than twelve per cent.[104] Out of twenty-three *Digest* excerpts explicitly stating rates of interest,[105] nine give a rate of six per cent per annum (*usura semissis*),[106] five give a rate of five per cent (*usura*

155), 8%; *SB* X 10492 (unknown origin, 163), ll. 3-4, 8%; *P.Oxy*. XVII 2134 (Oxyrhynchos, 170), 6%; *P.Flor*. I 46 (Hermoupolis Magna, 182/3) (=*M.Chr*. 185), ll. 12-13, 6%; *P.Giss*. I 32 (Hermopolis, 184-189), ll. 5-6, 8%; *P.Oxy*. XIV 1648 (Oxyrhynchos, late second century), 7.2%; *P.Giss*. I 33 (Hermopolis, 222), ll. 7-8, 6%; *SB* VIII 9923 (Ptolemais Euergetis, 175/6), which records a principal sum of 1,700 *drachmae* and a repayment made at 1,800 *drachmae*, and, see Schreiner (1963) 44, who notes that 100 *drachmae* is 'a remarkably low amount' for interest, and suggests that interest was set at the legal rate of twelve per cent and that a discharge from the remainder of the interest sum was granted due to 'some sort of antichresis, or service' performed by the debtor. Montevecchi (1988) 226, who gives a list of papyri which record loans (*mutua*, *δάνεια*) in which interest rates are lower than twelve per cent.

[102] Though twelve per cent is not unattested, the exception of four and a third per cent is also found, *CIL* X 6328 (=*ILS* 6278); and fifteen per cent, *CIL* V 5134 (Bergomum, second or third century). Also, see Billeter (1898) 187-228; Duncan-Jones (1982) 33, 102-3, 131-6, 171-84; Woolf (1990).

[103] Papin. *Dig*. 20.1.1.3 (11 *respon*.). A similar approach is attested in Plin. *Ep*. 9.28.5; *CJ* 4.32.8 (Caracalla).

[104] Papin. *Dig*. 20.1.1.3 (11 *respon*.), who demonstrates that rates lower than the legal maximum where not uncommon; Ulp. *Dig*. 26.7.7.10 (35 *ad ed*.), who speaks of 'five per cent or four per cent or any other lesser rates which are frequently used in the province'.

[105] Papin. *Dig.* 22.2.4.1 (3 *respon*.), who mentions a very high daily maximum rate for maritime loan, is not included in these twenty-three; on maritime interest rates, see Billeter (1898) 242-54; Visky (1983) 85-108; Mrozek (2001); and Ch. 6, pp. 184-5, above. Three of the twenty-three excerpts do not give an explicit rate, but a rate can be computed from them; Billeter (1898) 106-7, 255: Paul. *Dig*. 45.1.126.2 (3 *quaest*.), who refers to eight *denarii* per thousand paid due to arrears ('*usurarum nomine denarios octo praestari*'), if the time-frame is indeed a month, than the interest rate was 9.6 per cent per annum; 16.3.26.1 (4 *respon*.), who states an interest of 'four obols per mina per month', on which see Ch. 8, pp. 252-4, below; 12.1.40 (3 *quaest*.), who records interest on arrears following the same formula: '*poenae nomine in dies triginta inque denarios centos denarios singulos dari*'. The formula 'so-and-so *drachmae* per mina per month' is customary in Greek documents; e.g. *P.Harr*. I 85 (Oxyrhynchos, 117) ll. 10-11, '*τόκου δραχμιαίου ὡς / ῆς μνᾶς κατὰ μῆνα'*; *BGU* I.301 (Arsinoite Nome, 157) l. 8, '*τόκου δραχμιαίου τῇ μνᾷ κατὰ μῆνα*'; though, Greek documents may also state the interest as a sum to be paid in addition to that of the principal; e.g. *P.Stras*. I 52 (Hermopolis, 151); *P.Flor*. I 1 (Hermopolis. 153), where an additional sum is specified together with the usual formula of *τόκου δραχμιαίου μνᾶς κατὰ μῆνα*.

[106] Afric. *Dig*. 17.1.34.pr. (8 *quaest*.); 19.5.24 (8 *quaest*.); Scaev. *Dig*. 22.1.13.pr. (1 *respon*.); 34.4.30.pr. (20 *dig*.); Ulp. *Dig*. 15.4.3 (2 *respon*.); 50.10.5.pr. (*off. curat. rei pub*.); Paul. *Dig*. 22.1.17.6 (1 *de usur*.);

quincunces),[107] and four a rate of four per cent.[108] In itself this is no sufficient proof that these rates were the commonest.[109] However, two excerpts may suggest that six per cent was a usually acceptable rate. First, the second-century jurist Scaevola reports a loan agreement of five per cent interest, where the careless debtor had mistakenly paid six per cent.[110] Such a mistake could reasonably occur only if six per cent was a habitually paid rate. Second, there is the testimony of the third-century jurist Paul, who states that debtors whose obligations were transferred to the Treasury were compelled to pay six per cent interest even where their initial obligation was of a lower rate.[111] Interest at six and five per cent per annum has long been recognised by scholars as the common interest rate

45.1.134.2 (15 *respon*.); Mod. *Dig*. 50.12.10 (1 *respon*.), who uses the term *usurae semissales* (and is the only exemplum given in the *OLD* for the use of *semissalis*).

[107] Paul. *Dig*. 22.1.17.pr. (1 *de usur*.); Ulp. *Dig*. 26.7.7.10 (35 *ad ed*.); Scaev. *Dig*. 34.1.15.pr. (17 *dig*.); 34.1.16.2 (18 *dig*.); 46.3.102.3 (5 *respon*.).

[108] Paul. *Dig*. 22.1.17.8 (1 *de usur*.); Ulp. *Dig*. 26.7.7.10 (35 *ad ed*.); 27.4.3.1 (36 *ad ed*.); Papin. *Dig*. 36.2.26.1 (9 *respon*.). There is also Paul. *Dig*. 35.2.3.2 (*ad leg. falc*.): '*Marcellus putat tantum videri legatum, quantum sufficiat sorti ad usuras trientes eius summae, quae legata est, colligendas*'; but although *usuras trientes* often stands for four per cent interest (a third of a per cent per month), here Watson's translation reading '...the amount sufficient for the collection of interest amounting to one third of the sum bequeathed', should be accepted.

[109] Lower rates attested in the *Digest* are taken from alimentary arrangements: Scaev. *Dig*. 33.1.21.4 (22 *dig*.), who mentions three per cent interest (*usuras quadrantes*) as the rate set by a testator to be the yields of a *fideicommissum* given as aliment to his foster-child; 26.7.47.4 (2 *respon*.), who mentions a testator which instructed the future tutors of his son 'to enter in the accounts one per cent of this sum by way of interest', and Scaevola thinks that higher rates could be obtained, thus the low rate accommodates the testators' desire to encourage tutors and *fidei*-commissaries to accept responsibility by affording them a margin for gain; Bürge (1987) 541. On interest in alimentary arrangements, see pp. 221-7, below.

[110] Scaev. *Dig*. 46.3.102.3 (5 *respon*.).

[111] Paul. *Dig*. 22.1.17.6 (1 *de usur*.).

in the Roman empire,[112] and has been argued to have correlated with levels of agricultural profit.[113]

Nonetheless, interest rates were clearly not homogeneous throughout the empire. On top of fluctuating in accordance with the exact circumstances of each individual transaction, interest rates also varied according to locality and the *mos regionis*.[114] We have already seen the Egyptian adherence to the Ptolemaic maximum, twice that of the Roman, as well as the long lasting Hellenistic practice of a penalising *ἡμιόλιον*-interest. Roman jurists often acknowledged regional variation in interest rate,[115] and entrusted local judges with the responsibility to set the rate according to custom.[116] A general notion of 'a common interest rate' is deduced not only from the numerical evidence. Ulpian talks of a *modum probabilem usurarum*, 'the acceptable rate of interest';[117] his contemporary Paul tells of an administrator who was in the habit of lending public money at the *usura solita*, the 'usual' or 'ordinary' rate of interest;[118] and his student Modestinus

[112] Billeter (1898) 211-9, who argues in favour of a general decline in interest rates by the time of Severus Alexander, though the figures he cites are usually of six, five or four per cent; Duncan-Jones (1982) 135; Andreau (1999) 90-9; Mrozek (2001). Five and six per cent are attested also for the first century; e.g. Colum. *RR* 3.3.9; Plin. *NH* 14.56. This trend is also evident in epigraphic evidence; see Billeter (1898); Duncan-Jones (1982) 132-5; Mrozek (2001) 76-90, 98-105. The numerical evidence supporting stability of interest rates, both regionally and empire wide, received profound scholarly attention. Billeter (1898) esp. 182-228, who continues to be the best starting point; Duncan-Jones (1982); Andreau (1987); Tenger (1993) esp. 23-7, 43-6, 59-60, 79-83, 92-3; Mrozek (2001).

[113] Duncan-Jones (1982) 33-59, 132-5; De Neeve (1985) esp. 82-5, who views the price of land as primarily determined by what it yielded, i.e. the average *reditus* or *fructus* reckoned over a number of years. That the level of productivity influenced the price of land, is attested also in a rescript of Severus and Caracalla; Paul. *Dig*. 27.9.13.pr. (*ad orat. div. sev*.). On the relation between *usura* and *fructus*, see discussion on pp. 223f., below.

[114] Ulp. *Dig*. 17.1.10.3 (31 *ad ed*.); 22.1.37 (10 *ad ed*.); 30.39.1 (21 *ad sab*.); Scaev. *Dig*. 33.1.21.pr. (22 *dig*.); Gai. *Dig*. 13.4.3 (9 *ad ed. prov*.); Billeter (1898) 179-80.

[115] Gai. *Dig*. 13.4.3 (9 *ad ed. prov*.); Ulp. *Dig*. 17.1.10.3 (31 *ad ed*.); 22.1.37 (10 *ad ed*.); 26.7.7.10 (35 *ad ed*.); 27.4.3.1 (36 *ad ed*.); Papin. *Dig*. 33.1.21.pr. (22 *dig*.); Billeter (1898) 179-81.

[116] Papin. *Dig*. 22.1.1.pr. (2 *quaest*.); Ulp. *Dig*. 30.39.1 (21 *ad sab*.).

[117] Ulp. *Dig*. 33.1.3.6 (24 *ad ed*.).

[118] Paul. *Dig*. 22.1.11.pr. (25 *quaest*.).

cites a woman who talks of *τὸν ἐξ ἔθους τόκον*, 'the usual rate'.[119] Though using different wording, these examples all refer to the same phenomenon of an 'ordinary' interest rate, suggesting that it was well-known and, at least locally, probably quite stable.

7.4. Practicalities of Contracting and Charging Interest

As noted above, decisions concerning interest varied from one loan to another in accordance with the specific arrangement of the agreement. Some loan agreements stated that principal plus interest were to be repaid when and where the creditor demanded;[120] some specified where the repayment was to be performed,[121] others specified when.[122] Technically this was regularly achieved via *stipulatio*,[123] with the interest stipulated in an additional stipulation to that of the loan itself.[124] The need for multiple stipulations lies in the fact that while the principal (*sors*) is a fixed sum, hence *certum*, interest (*usura*) depends on how long a loan lasts, hence was perceived as *incertum*.[125] *Sors* and *usura* were distinctive items (*res*) of diverse character, hence ought to have been stipulated for

[119] Mod. *Dig*. 50.12.10 (1 *respon*.), who adds that that 'common rate' was six per cent (*usuras semissales*); Billeter (1898) 217-8.

[120] Papin. *Dig*. 16.3.24 (9 *quaest*.). The obligation to repay upon demand was common in Greek *παραθήκη*; see Ch. 8, pp. 254-6, below.

[121] In Capua: Afric. *Dig*. 13.4.8 (3 *quaest.*); in Ephesus: Ulp. *Dig*. 13.4.2.7-8 (27 *ad ed*.).

[122] Paul. *Dig*. 12.1.40 (3 *quaest*.); 22.1.12 (4 *respon*.); Mod. *Dig*. 22.1.41.2 (3 *respon*.); Paul. *Dig*. 45.1.126.2 (3 *quaest*.); Scaev. *Dig*. 45.1.122.pr. (28 *dig*.), where a *mutuum* contract is supplemented by a *stipulatio* specifying where and when repayment was to be made.

[123] That this was common practice is implied in Ulp. *Dig*. 12.6.26.1 (26 *ad ed*.); Paul. *Dig*. 22.1.12 (4 *respon*.); Scaev. *Dig*. 22.2.5.1 (6 *respon*.); Litewski (1975) 304-5.

[124] As stated by the second-century jurist Sextus Caecilius Africanus; Afric. *Dig*. 13.4.8 (3 *quaest.*); 19.5.24 (8 *quaest.*). This is also attested for the third century; *CJ* 4.32.3 (Severus and Caracalla, 200); Papin. *Dig*. 22.1.9.1 (11 *respon*.); 22.2.4.11 (3 *respon*.), with regard to maritime loan; Paul. *Sent*. 2.14.1. That the agreement on interest need not be a written was decreed by Antoninus Pius; *CJ* 4.32.1 (Ant. Pius., 138-61). Also, see Michel (1962) 113-5; Buckland (1963) 464-5, 549; Kaser (1971) 497; Zimmermann (1996) 154-5.

[125] Ulp. *Dig*. 45.1.75.9 (22 *ad ed*.): '*qui sortem stipulatur et usuras quascumque, certum et incertum stipulatus videtur et tot stipulationes sunt, quot res sunt*'.

separately,[126] each stipulation carrying its own legal action. Where a stipulation stated a sum which comprised both principal and interest, a claim for reimbursement applied to both,[127] with the disadvantage of fixing the amount paid as interest although the loan might be repaid later than agreed upon. Such practice was probably commoner where wishing to conceal an interest rate higher than the legal maximum.[128] This could easily be achieved if the actual amount provided by the lender was lower than the sum stated in the contract, which in fact accounted for both principal and interest.[129]

There are three types of real contracts which ought to be considered in this context: *mutuum*, *commodatum*, and *depositum*. Theoretically, none of these obligations could be done for interest; however, sometimes interest could be settled in an agreement augmenting the main contract. In the case of *mutuum*, a loan in which an equivalent in kind and quantity was to be returned, such an agreement presented no essential problem.[130] Interest was usually contracted via *stipulatio*,[131] the stipulation then receiving

[126] Because *stipulatio* needs to specify *quale quantumque* due, *certum sors* and *incertum usuara* could not be stipulated together; Ulp. *Dig*. 45.1.75.pr. (22 *ad ed*.). On the relation between *sors* and *faenus*/*usura*, see Mrozek (2001) 70-1.

[127] Since it ought to be for something certain; Ulp. *Dig*. 22.1.31 (1 *respon*.); 45.1.75.pr. (22 *ad ed*.); Scaev. *Dig*. 45.1.122.pr. (28 *dig*.), who reports a case of *mutua pecunia* with an additional stipulation that set the time and place (a province) for repayment, where the lender offered to repay immediately and at Rome (where the loan was originally contracted) with a deduction of the amount to be paid as *usura*, probably due to the shortening of the duration of the loan, thus here the sum stipulated for seems to have accounted for both interest and principal. See, Buckland (1963) 465, who argues that in loans of money (*mutua pecunia*) advanced by *civitates* 'it is to be supposed that the interest due was added to the amount of the loan in the *intentio* of the action'; Visky (1983) 80-81. The picture which arises from the papyri is not always clear; see, Roth (1970) 46-8, who argues that sums stated in *χρῆσις* usually combine principal and interest, to veil usurious rates; e.g. *P.Lugd.Bat.* VI 22 (Tebtunis, 122); *P.Fouad* 51 (Tebtunis, 126); but, see Tenger (1993) 42-6, for partial confutation of Roth's claim.

[128] Paul. *Dig*. 22.1.20 (12 *ad sab*.); Ulp. *Dig*. 13.5.11.1 (27 *ad ed*.), where illegal interest (*usuras quae non debebantur*) does not exempt from repayment of the principal; Pestman (1971); Bagnall (1977) 94, who says that 'the absolute avoidance of any statement that one party is paying so much interest… is owed to the fact that the rate being charged was illegal in a loan of money'.

[129] Plu. *De vitando aere alieno, Moralia* 829D. For papyrological evidence, see Roth (1970) 21-5, 96-7; Pestman (1971); Bagnall (1977) 92-5.

[130] Paul. *Dig*. 12.1.2.1 (28 *ad ed*.); Kaser (1971) 530-1.

legal precedence.[132] Interest on *commodatum* was less straightforward, as this was a loan for use, where the very same thing lent had to be returned. Under these conditions, accepting remuneration would have rendered the transaction a *locatio conductio* rather than a loan.[133] However, where a *commodatum* produced *causa*, i.e. an outcome, a borrower could be obliged to render more than was initially given in *commodatum*.[134] This referred first of all to natural produce, as in the case of *fructus*,[135] or *fetus*;[136] reasserting once more the fundamentally agricultural nature of the economy. *Causa* could also refer to profits collected due to an unauthorised use of the *commodatum*.[137] Thus, although interest could not be charged on money given in *commodatum*, any interest gained through an unauthorised use of that money had to be rendered back together with the *commodatum* itself. However, in such a case interest was not raised on the *commodatum per se*, but was more of a penalty aimed at preventing malpractice of *commodatum*.[138] The case of *depositum* is uniquely complex, and is discussed at length in the next chapter.

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[131] Ulp. *Dig*. 17.1.10.4 (31 *ad ed*.), who, when considering a case of a borrower of *mutua pecunia* who happened also to be employed by his creditor under a mandate, ruled that unless interest was separately stipulated for the borrower could not be sued for interest on the ground of the mandate; Paul. *Dig*. 12.1.40 (3 *quaest*.), who reports a case brought before Papinian where *mutua numerata* and interest were separately agreed and stipulated for, though the agreement cited in this excerpt mentions neither *usura* nor *faenus*, but talks of a penalty to be paid in the case of default (*poenae nomine*), an obligation which the distinguished jurist names *obligatio usurarum* (on penalising interest see discussion on pp. 218-21 below); 45.1.126.2 (3 *quaest*.), who presents similar wording; Buckland (1963) 463-5; Kaser (1971) 497, 531; Zimmermann (1996) 154-6; Klami (1986) 98, who claims that interest-free *mutuum* was so rare that it was treated as *depositum*; contra Pestman (1971), who claims that many loans which appear as interest-free had in fact included interest, concealed within the sum stated as principal; Bagnall (1977).

[132] Pompon. *Dig*. 46.2.7 (24 *ad sab*.); Zimmermann (1996) 154-6.

[133] Ulp. *Dig*. 13.6.5.12 (28 *ad ed*.); Just. *Inst*. 3.14.2; Fiori (1999) 276-81; and, see comment on *gratis habitare* on Ch. 5, pp. 142-3, above.

[134] Buckland (1963) 471-2; Kaser (1971) 533-4.

[135] Paul. *Dig*. 22.1.38.10 (6 *ad plaut*.). On *fructus* and *usura*, see pp. 227f., below.

[136] Ulp. *Dig*. 13.6.5.9 (28 *ad ed*.), here, a mare bearing a foal.

[137] Pompon. *Dig*. 13.6.13.1 (11 *ad sab*.), who mentions working animals given in *commodatum* to be tried out before being hired.

[138] On penalising interest, see pp. 218-21, below.

Interest could also be agreed upon without being stipulated for via a *pactum adiectum*, an 'additional agreement'. A rescript of Severus and Caracalla mentions two possible types of interest, one arising from a stipulation, hence enforceable through a legal action (*debita*), the other not legally enforceable (*indebita*), as, for example, when arising from a pact (*ex pacto naturaliter*).[139] In both cases interest was agreed upon; but in the latter the parties apparently neglected to take precautions which would enable them to claim interest in court via legal action.[140] Interest agreed in a mere pact (*nudum pactum*) gradually had received the status of *obligatio naturalis*, meaning that once paid it could not be reclaimed as unjustifiably paid.[141] Yet, no legal action was available to a lender against a debtor who was in default in paying interest agreed upon in a *pactum*.

This rule had exceptions. The strictness of law was eased to facilitate creditors in collecting interest agreed upon in a supplementary pact in loans advanced by municipalities (*civitates*),[142] and in maritime loans (*faenus nauticum*).[143] In the former case, extending legal aid provided to municipalities reduced the risks to which public funds were exposed; so that even where municipal officials neglected to secure interest payment via a stipulation, the *civitas*—in the sense of both the community, and the municipal ruling authority—would not suffer loss.[144] In the latter case, it was the appreciation of the risks involved in seafaring which furnished both the legitimacy of

[139] Ulp. *Dig*. 46.3.5.2 (43 *ad sab*.). Perhaps Ulpian is referring here to the same ruling preserved in *CJ* 4.32.3 (Severus and Caracalla, 200).
[140] Kaser (1971) 497-8; Litewski (1975) 304-5.
[141] Buckland (1963) 464-5, 549, 552-3; Kaser (1971) 480-1, 496-8; Zimmermann (1996) 7-10. This received imperial recognition under the Severi; *CJ* 4.32.3 (Severus and Caracalla, 200).
[142] Paul. *Dig*. 22.1.30 (1 *regul*.). On loans advanced by municipalities, see Sirks (1998).
[143] Paul. *Dig*. 22.2.7 (3 *ad ed*.); Kaser (1971) 498, n. 37 (and 532-3, on *faenus nauticum* in general).
[144] It is likely that the municipalities gained priority over other creditors in recovering debts (*protopraxia*); Plin. *Ep*. 10.108; and the Roman *fiscus* had priority over any *civitas*; Paul. *Sent*. 5.12.10; Marcian. *Dig*. 50.1.10 (*delat*.); Lintott (1993) 150-1, with further reference in nn. 94-5.

high interest rates,[145] and the easing of the legal procedures required for collecting it. Extending legal aid provided to (private) creditors created more favourable conditions for them to have collected profits, thereby encouraging investment in maritime trade.[146]

These two exceptions, as far as I am aware, date long before the period here under investigation; towards its end a third exception was added. A *constitutio* of Alexander Severus, dated to the start of his reign (223), widened the legal enforceability of interest contracted via a mere pact:

> Frumenti vel hordei mutuo dati accessio etiam ex nudo pacto praestanda est.[147]

Since the relative abundance of imperial rescripts preserved from Alexander's reign tends to 'record or choose between standard legal opinions',[148] probably this *constitutio* was not revolutionary. That is, it did not introduce an entirely new practice; rather, it re-affirmed an already existing custom, where courts tended to accept interest contracted via pacts as legally enforceable. Legalising such a custom would have eased juridical procedures, and fits well with both the prominence of jurists in Alexander's court,[149] and the general inclination of his administration to strive for stability.[150]

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[145] On which see Ch. 6, pp. 184-5, above.

[146] Such government intervention via legislation should be seen as connected with Roman imperial efforts for securing food supply. Easing legal procedures to favour creditors encouraged lenders to invest in seafaring, hypothetically enlarging the supply of maritime loans. This, in turn, had the potential of creating more favourable conditions for traders and ship-owners; thereby increasing the number of people who were willing—and could afford—to take on state contracts for maritime transfer of food supplies, especially to the city of Rome; on which, see Sirks (1991).

[147] *CJ* 4.32.11 (Alex. Sev., 223).

[148] Honoré (1979) 54-5.

[149] The *constitutio* might even had been an initiative of Ulpian acting as praetorian prefect (222-223), perhaps not yet murdered by the troops; Zos. 1.11.2-3; Zonar. 12.15.4-6; a murder which occurred before May/June 224; *P.Oxy*. XXXI 2565 (Alexandria, 224); Honoré (1979) 56. On Alexander Severus' reign as reflected in the HA *Al. Sev*., see Bertrand-Dagenbach (1990), and pp. 125-38, on his reign in sources other than the HA.

[150] De Blois (2006); Bertrand-Dagenbach (1990) 165-77.

Alexander's *constitutio* extended legal aid to creditors in collecting profits on their investment, though not any type of investment. Only *mutuum* is referred to, and only such as concerned corn; money-lending is excluded. Had the intention been to facilitate profit collection in general, one would expect the *constitutio* not to have been restricted to agricultural consumables.[151] This restriction makes the regulation beneficial only to creditors advancing loans of corn, i.e. creditors whose wealth rested in landed-property. By discounting monetary loans the *constitutio* not only reaffirms the centrality of agriculture in Roman economic activity, it also indicates that imperial intervention to ease legal procedures for economic actors was more easily advanced when it served imperial interests.[152] The need to aid creditors in collecting interest on financial investments was perhaps of a lesser significance from an imperial perspective; either because it was not perceived as an essential activity which required imperial protection, or since it did not represent a considerable source of imperial revenue.

Whatever procedure was used for agreeing upon interest, its payment had to be delivered. Ideally, from the lender's point of view, principal plus interest would be paid together in full and at the time due. It could be agreed in advance that a loan would be repaid in several installments, in which case payments would first account for the interest.[153] When the sum owed was only partially repaid, payments received first

[151] *Frumenti vel hordei*, literally 'wheat or barley'. Buckland (1963) 549, understands *frumenti vel hordei mutuo dati* as referring to 'loans of fungibles other than money'.

[152] As in seeing to the supply of foods to Rome; Sirks (1991) esp. 40-4, 51-3, 595-7.

[153] Paul. *Dig*. 12.1.40 (3 *quaest*.); 22.1.12 (4 *respon*.); Pompon. *Dig*. 13.7.8.3 (35 *ad sab*.); Mod. *Dig*. 22.1.41.1 (3 *respon*.), who considered the possibility that the initial agreement specified whether or not the debtor was permitted to repay the loan in instalments. However, *P.Harr*. I 66 (unknown origin, 155), records a receipt for repaying the interest and a portion of the principal.

accounted for the interest and only afterwards could the principal be reduced.[154] Where disputes arose, it was left to a judge to decide how much of the payment accounted for the interest and how much was still left to be paid of the principal.[155] Where it was ruled that interest was not due, payments already received were to be accounted towards the principal.[156] Where interest was collected above the legal rate (and the case was brought before a judge), the extra sums paid were to be credited against the principal.[157] After the principal was fully repaid, interest could no longer be claimed.[158] In any case, it seems to have been the obligation of the plaintiff and not of the court to ensure that interest was indeed paid.[159]

7.5. Other Usages of the Roman Instrument of Interest

Besides being the fee charged on a loan, Roman interest also operated as a penalty, imposed due to a default in repayment, or in completing some other comitment.[160] It could be charged due to a delay in all sorts of obligations: in repaying a loan,[161] paying rent,[162] completing a sale,[163] returning money entrusted for safe keeping or *fideicommissa*,[164] depositing money,[165] or fulfilling any other obligation.[166] It could

[154] Ulp. *Dig*. 36.4.5.21 (52 *ad ed*.); 46.3.5.2; 3 (43 *ad sab*.). This was so also when a surety was sold to cover a debt; Paul. *Dig*. 46.1.68.1 (3 *decret*.).
[155] Afric. *Dig*. 13.4.8 (3 *quaest.*), where the judge also had to consider where the payment was received, if it differed from what originally was stipulated.
[156] Ulp. *Dig*. 12.6.26.pr. (26 *ad ed*.); Scaev. *Dig*. 46.3.102.1 (5 *respon*.).
[157] Ulp. *Dig*. 12.6.26.pr. (26 *ad ed*.); Paul. *Sent*. 2.14.2; *SB* XX 14401 (Arsinoite Nome, 147).
[158] Herm. *Dig*. 19.1.49.1 (2 *iur. epit*.), writing after the period here under investigation.
[159] Papin. *Dig*. 22.1.1.2 (2 *quaest*.).
[160] Billeter (1898) 254-60; Visky (1983) 74-85.
[161] Paul. *Dig*. 22.1.11.pr. (25 *quaest*.); 31.87.1 (14 *respon*.); Pompon. *Dig*. 45.1.90 (3 *ex plaut*.).
[162] Paul. *Dig*. 19.2.54.pr. (5 *respon*.); Herm. *Dig*. 39.4.10.1 (5 *epit*.), writing after the period here under investigation.
[163] Ulp. *Dig*. 19.1.13.20 (32 *ad ed*.); Paul. *Dig*. 19.1.47 (6 *respon*.).
[164] Ulp. *Dig*. 17.1.10.3 (31 *ad ed*.); Paul. *Dig*. 31.87.1 (14 *respon*.); Papin. *Dig*. 16.3.24 (9 *quaest*.); 31.78.2 (9 *respon*.); 34.1.10.1 (9 *respon*.).

have been imposed on the initial takers of the obligation or on their guarantors;[167] and Papinian says that even the *res publica* should be charged with interest when in default of executing a *fideicommissum*.[168] In all of these cases interest was in fact a fine on arrears; and also a form of compensation for any offence or loss the entitled party may have suffered due to the delay.[169] Where interest was initially agreed upon at a rate lower than the legal maximum, parties could agree in advance that in the case of a default a higher rate would be due.[170] Interest on arrears could be agreed upon in a clause in the original contract,[171] via either a *pactum*,[172] or a *stipulatio*,[173] or be set by a judge after the default occurred and a claim was brought before a court.[174] Even where contracts did not explicitly state interest on arrears, this seems to have been common practice, certainly in

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[165] Paul. *Dig*. 13.7.7 (2 *sent*.); Ulp. *Dig*. 26.7.7.10 (35 *ad ed*.).

[166] Scaev. *Dig*. 32.35.pr. (17 *dig*.); Ulp. *Dig*. 35.1.92 (5 *fideicom.*); Paul. *Dig*. 22.1.17.5 (1 *de usur*.), when in default in paying the *fiscus*.

[167] Paul. *Dig*. 19.2.54.pr. (5 *respon*.).

[168] Papin. *Dig*. 31.78.2 (9 *respon.*); Paul. *Dig*. 22.1.17.5 (1 *de usur*.). However, default in giving a promised donation did not carry a penalising interest; Mod. *Dig*. 39.5.22 (8 *diff*.). Though this did not apply to donations given for the purpose of constructing public work; Ulp. *Dig*. 50.12.1.pr. (*off. curat. rei pub.*).

[169] The second-century jurist Pomponius says so explicitly, Pompon. *Dig*. 17.2.60.pr. (13 *ad sab*.). Visky (1983) 67-77, esp. 67-9, 76-7, who argues that interest was used as both a penalty (*Konventionalstrafe*) and a payment due to arrears (*Verzugszinsen*), suggesting that these were separate "legal institutions" (*Rechtsinstitutionen*), interchangeable in Roman law since the mid-second century. Yet, I see no reason why the two—*Konventionalstrafe* and *Verzugszinsen*—should be treated as separate institutions; rather, the latter is a sub-category of the former.

[170] Papin. *Dig*. 20.1.1.3 (11 *respon*.); 22.1.9.1 (11 *respon*.). This, however, was not to surpass the legal maximum; Ulp. (Papin.) *Dig.* 19.1.13.26 (32 *ad ed*.); Mod. *Dig*. 22.1.44 (10 *pandec*.); Papin. *Dig.* 22.1.9.pr. (11 *respon.*). In maritime loans, in addition to the already high interest rate, a penalty-clause for a delay in repayment could be added; Ulp. *Dig*. 22.2.8 (77 *ad ed*.); Labeo *Dig*. 22.2.9 (5 *pith. a paul. epit.*); Afric. *Dig*. 44.7.23 (7 *quaest*.).

[171] Afric. *Dig*. 13.5.24 (1 *respon*.); Paul. *Dig*. 12.1.40 (3 *quaest.*); 19.1.47 (6 *respon*.); 22.1.17.pr. (1 *de usur*.); 45.1.126.2 (3 *quaest.*), where the contract states not the rate of interest, but the sum to be paid by way of interest.

[172] Papin. *Dig*. 20.1.1.3 (11 *respon.*).

[173] Pompon. *Dig*. 45.1.90 (3 *ex plaut*.); Paul. *Dig*. 22.1.12 (4 *respon*.), who refers to a stipulation for paying a higher rate in the case of a delay; 22.1.17.pr. (1 *de usur*.), who states that an increased penalising interest is due only from the date of the delay.

[174] Papin. *Dig*. 16.3.24 (9 *quaest.*); Paul. *Dig*. 19.2.54.pr. (5 *respon*.), who says that interest payments could arise from a decision of a judge, rather than from an obligation.

the early third century.[175] Lastly, interest could also be demanded retrospectively, starting from the date of the default.[176]

Interest was not only a penalty in the case of a delay or non-fulfilment of an obligation; it was also used as a disciplinary punishment.[177] For example, giving a false declaration concerning one's wealth was punished with a heavy interest (*graviores usuras*) on all possessions exceeding the false sum declared.[178] A similar rule applied to tutors who denied having the maintenance of their wards; they could be charged by the praetor 'so that a very heavy interest is paid on whatever is shown to be in their possession'.[179] In these cases, interest is charged not because of a delay, but rather as a punishment for malpractice. Together with providing compensation to the entitled party, it acted as a measure for preventing potential misconduct, and as an assurance for the fulfilment of commitments.[180] As such, it tended to be set at the highest legal rate.[181] Tryphoninus, writing under Severus and Caracalla, distinguished between penalising interest due to malpractice, such as an unauthorised use of someone else's money, and that due on account of a delay in repaying a debt; the former was at the highest legal rate, whilst the latter was not necessarily so;[182] perhaps because in the former case the

[175] Papin. *Dig*. 16.3.24 (9 *quaest*.); Ulp. *Dig*. 17.1.10.3 (31 *ad ed*.); Paul. *Dig*. 19.1.47 (6 *respon*.); 19.2.54.pr. (5 *respon*.); 22.1.11.pr. (25 *quaest*.); Marcian. *Dig*. 22.1.32.2 (4 *regul*.).
[176] As decreed by Marcus Aurelius; Paul. *Dig*. 22.1.17.pr. (1 *de usur*.).
[177] This duality, i.e. interest being both a fine and a punishment, is attested also for the Latin word *poena*, used in Roman legal texts as both a pecuniary penalty (i.e. a fine), and punishment in general; Visky (1983) 70-1.
[178] Ulp. *Dig*. 27.2.3.4 (1 *de omn. trib*.).
[179] Ulp. *Dig*. 26.7.7.8 (35 *ad ed*.): '*ut quidquid constiterit penes eos esse, eius gravissima usura pendatur*'; similarly, 26.7.7.10 (35 *ad ed*.). Interest could be accounted for also when penalising ill-behaved guardians; e.g. Ulp. *Dig*. 27.5.1.8 (36 *ad ed*.), though here interest probably was no penalty or punishment, but part of the property to be returned to the ward.
[180] Visky (1983) 70-72, who regards the Romans' blurred distinction between 'punishment' and 'fine'; and 108-9, 120-1, on the fifty per cent *ἡμιόλιον* used as a deterring punishment.
[181] Tryph. *Dig*. 3.5.37(38) (2 *disput*.); *CJ* 7.54.1 (Caracalla); Billeter (1898) 255-8, 281-3.
[182] Tryph. *Dig*. 3.5.37(38) (2 *disput*.).

penalising interest was also to serve as punishment for immoral behavior. A judgment to pay interest had to specify its rate,[183] and this was often left to the decision of a judge,[184] setting it at either the common rate or the maximum legal rate, according to the particulars of the case.[185] However, in exceptional circumstances, where a default or malpractice inflicted greater losses on the plaintiff, a judge could rule for a compensating interest at a rate higher than the legal maximum.[186]

A different use of the instrument of interest was its employment in guaranteeing a permanent stream of future payments, to either individuals or communities.[187] This had been achieved through legacies and within the framework of legal formats such as *donatio* (donation), *dotatio* (endowment), and above all *fideicommissum*.[188] Roman testators who wished to guarantee the maintenance of their offspring, or that of other dependents, could assign part of their legacy for this purpose.[189] This share was then

[183] Ulp. *Dig*. 42.1.59.2 (4 *de omn. trib*.). This rule follows similar logic as the obligation to set a specific price for conducting a sale or for making any other obligation; Ulp. *Dig*. 18.1.7.1 (28 *ad sab*.); Gai. *Dig*. 18.1.35.5 (10 *ad ed. prov*.).

[184] Ulp. *Dig*. 30.39.1 (21 *ad sab*.).

[185] Billeter (1898) 281-8.

[186] Ulp. *Dig*. 13.4.2.8 (27 *ad ed*.), who, when discussing the *actio utilis* provided for obligations that were to be given in a fixed place, gives several possible cases where a judge might inflict interest at a rate higher than the legal maximum, including *pecunia traiecticia*, which was anyway subject to higher rates, and a case where on account of a default pledges given to the *fiscus* were cheaply sold. Another punitive interest at a rate higher than twelve per cent was the above-mentioned fifty per cent *ἡμιόλιον*, commonly used in the east as a form of penalty; Billeter (1898) 258-66, 284-6; Vinsky (1983) 108-120.

[187] Mrozek (2001) 70-71, who argues that a significant change in the use of Roman interest occurred at the turn of the second century CE; as he puts it: 'Mit der Entwicklung des Stiftungssystems … trat das Positive an den Zinsen deutlicher in den Vordergrung, zumal ein großer Teil der Stiftungen und besonders die Alimentarstiftungen auf Wohlfahrt bedacht waren'. On perpetual management of collective monetary sums of communities, especially *kalendaria*, i.e. public capital loaned out at interest, see Sirks (1998). On the *kalendarii*, see also Giliberti (1984), *non vidi*; (1999).

[188] On *fideicommissum*, see Johnston (1988); Manthe (1989), who focuses on procedure and the *senatus consultum Pegasianum* passed under Vespesian (69-79); Giodice-Sabbatelli (1993), on *fideicommissa* in the first century CE.

[189] This could have been in the form of either real-estate or money; Ulp. *Dig*. 2.15.8.5 (5 *de omn. trib*.); or, be given for the purpose of housing, clothing, or feeding; Ulp. *Dig*. 2.15.8.1 (5 *de omn. trib*.). *Digest* 34.1 (*De alimentis vel cibariis legatis*), and all of Ulp. *Dig*. 2.15.8 (5 *de omn. trib*.), are dedicated to this topic.

treated as a sort of a trust,[190] the yields from which were allocated to provide for subsistence allowance to the said dependants.[191] Where money was legated for such a purpose,[192] either as a *fideicommissum*,[193] or as a deposit later to be returned,[194] it was the instrument of interest which created the yield to fund the allowance or stipend.[195] The principal was given with instructions that the interest received on it would provide for the needs of foster-children (*alumni*),[196] freedmen,[197] or slaves.[198] There are several examples in the *Digest* where an interest, which was to be received on a monetary sum specified in coins,[199] precious metal,[200] or just labelled *pecunia*,[201] is specifically allocated for the purpose of supplying daily, monthly, or annual aliments.[202] In such cases interest is indicated by the word *usura*;[203] less explicitly by a mention of an increase of the sum from which aliments were to be paid (*ex incremento*);[204] or inferred from the phrase

[190] For a comparison of the Roman *fideicommissum* with the English term 'trust', see Johnston (1988) 1-2, 283-8. A testator may regard *fideicommissum* as a trust in the sense that an heir or a legatee are entrusted to execute the testator's wishes; yet, this so-called 'trust' did not come into existence until the death of the testator.

[191] These could be minors or adults; Ulp. *Dig*. 2.15.8.10 (5 *de omn. trib*.). The stipends could be given for life or for a designated period of time; Ulp. *Dig*. 2.15.8.3-4 (5 *de omn. trib*.). Any alteration of the sums in question required the interference of the praetor; Ulp. *Dig*. 2.15.8.pr. (5 *de omn. trib*.).

[192] Ulp. *Dig.* 2.15.8.4 (5 *de omn. trib*.); Scaev. *Dig*. 34.1.13.pr. (4 *respon*.).

[193] Scaev. *Dig*. 34.1.13.pr. (4 *respon*.); 34.1.15.pr. (17 *dig*.); and this practice is evident also in an imperial rescript of Antoninus Pius; Ulp. *Dig*. 34.1.3 (2 *off. cons.*). On *fideicommissum* as a tool to guarantee the exercise of a testator's will, see Johnston (1988).

[194] Ulp. *Dig.* 2.15.8.4 (5 *de omn. trib*.), where the principal was to be returned at the time of the death of the dependent. On deposits see Ch. 8, below.

[195] Ulp. *Dig.* 2.15.8.4 (5 *de omn. trib*.), who explicitly explains that this was the role of interest.

[196] Papin. *Dig.* 34.1.9.pr. (8 *respon*.); Scaev. *Dig*. 33.1.21.4 (22 *dig*.); 34.1.15.pr. (17 *dig*.); 34.4.30.pr. (20 *dig*.).

[197] Ulp. *Dig*. 34.1.3 (2 *off. cons.*); Papin. *Dig.* 34.1.8 (7 *respon*.); Scaev. *Dig.* 34.1.13.pr. (4 *respon*.); 34.1.16.2 (18 *dig*.).

[198] Papin. *Dig.* 34.1.10.1 (9 *respon*.), in this case the slave was later to be manumitted; Fro. *Amic.* I.14; *ILS* 2927; *ILS* 8978.

[199] Scaev. *Dig*. 34.1.13.pr. (4 *respon*.), three hundred *aurei*; Papin. *Dig*. 34.1.9.pr. (8 *respon*.), ten *aurei*.

[200] Scaev. *Dig*. 34.4.30.pr. (20 *dig*.), twenty pounds of gold.

[201] Scaev. *Dig*. 33.1.21.4 (22 *dig*.).

[202] Ulp. *Dig*. 2.15.8.3 (5 *de omn. trib*.).

[203] Ulp. *Dig.* 34.1.3 (2 *off. cons.*); Scaev. *Dig.* 34.1.13.pr. (4 *respon*.).

[204] Papin. *Dig.* 34.1.9.pr. (8 *respon*.). Both Scott (1932), and Watson (1985), translate this expression to mean interest.

pecuniae sortem, *sors* here in the meaning of 'principal' as opposed to 'interest'.[205] The rate of interest was usually fixed by the testator,[206] did not exceed the legal maximum and was often set at the "common" interest rate.[207] Thus, the instrument of interest was regularly used to produce a perpetual stream of income to support dependants.

Already in the first century we find individuals bequeathing money or income-bearing property also to communities,[208] with the aim that it would be used for specified public purposes;[209] and this practice continued throughout the second and third centuries.[210] The concern of benefactors was that the operations for which they had allocated contributions would linger on after their life-time. This concern gave rise to all sorts of expedients, the majority of which involved landed property, in the hope of preventing malpractice and securing the aim intended by the contributors.[211] Where monetary sums were given to municipalities, it was with the aim that the money would be

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[205] Papin. *Dig*. 34.1.8 (7 *respon*.): '*pecuniae sortem alimentis libertorum destinatam*'. Watson (1985) translated this as 'capital money destined for the provision of aliment for freedmen'. Since a similar meaning would have been achieved by the simpler *pecuniam destinatam*, the use of the word *sors* here seems intentional and probably indicates that this should be read as 'a designated *principal* sum of money', on which interest could be collected.

[206] Five per cent interest rate (*usuras quincunces*): Scaev. *Dig*. 34.1.15.pr. (17 *dig*.); 16.2 (18 *dig*.); six per cent (*usuras semisses*): 34.4.30.pr. (20 *dig*.); three per cent (*usuras quadrantes*): 33.1.21.4 (22 *dig*.). Also, Papin. *Dig*. 34.1.9.pr. (8 *respon*.), who mentions an 'aliment-interest' without indicating a rate.

[207] Ulp. *Dig*. 33.1.3.6 (24 *ad ed*.).

[208] On the capacity of municipalities to administer such contributions, see Johnston (1985), esp. 116-7, who argues that the decision whether or not to accept contributions was not driven by "economic rationalism", rather criteria of "appropriateness" were given higher weight than those of "affordability"; Sirks (1998).

[209] Plin. *Ep*. 10.75.2; Papin. *Dig*. 31.77.33 (8 *respon*.); Mod. *Dig*. 33.2.16 (9 *respon*.); Scaev. *Dig*. 33.2.17 (3 *respon*.), on which see Johnston (1985) 119-20. For cases where the purpose was not indicated, see Johnston (1985) 105-6.

[210] E.g. *CIL* XIV 2795 (Gabii, 140); *P.Oxy*. IV 705 (Oxyrhynchos, 200/2), which records two private endowments made by Aurelius Horion, a wealthy landowner in the Oxyrhynchite Nome, one of ten thousand Attic *drachmae* for the athletic contests at Oxyrhynchos, another of 'a sum of money for the purchase of land, the income from which should be devoted to relieving the burden of liturgies in certain villages in the nome. For both foundations the consent of the Emperor was necessary'; Johnson (1936) 695-6, n. 426. Also, see Duncan-Jones (1982) 80-1, 132-47; Mrozek (2001) 72-90, 98-105.

[211] E.g. Plin. *Ep*. 7.18.2; on which, see Johnston (1985) 117-8; Woolf (1990) 209. Also, see Johnston (1985), who discusses more generally the tension between the wishes of benefactors and those of municipalities; (1988) 117-54, on *fideicommissa* and other measures (i.e. codicils) applied in the face of intestacy.

lent out and the interest received on it (*ex usuris*) would finance public celebrations,[212] or the construction and maintenance of public buildings.[213] Such public benefactions were usually cast in the form of legacies *sub modo*,[214] or *fideicommissa*,[215] and could acquire permanent character if formulated as perpetual *fideicommissa*.[216]

Perhaps the most celebrated, as well as most expensive,[217] type of such public foundations, were the *alimenta*, municipally administered alimentary schemes intended to support Roman children and youth.[218] This institution takes its template from private allowance schemes and applies it in the public sphere. From the second half of the first century CE wealthy individuals are attested to have legated funds to communities in Italy in order that the interest received on them would finance public child allowance.[219] By the turn of that century the emperor, too, set up *alimenta* foundations;[220] financing from

[212] Scaev. *Dig*. 33.1.21.3 (22 *dig*.); on which, see Johnston (1985) 118-9; Marcian. *Dig*. 33.1.24 (8 *inst*.); Mod. *Dig*. 33.1.6 (11 *respon*.); 50.12.10 (1 *respon*.), where a matron legated money to her municipality so that the interest received on it would pay for the celebration of public games; *AE* 1979, 147; *CIL* XI 5745; *CIL* XIII 4132 (Trier, 198); on which, see Johnston (1985) 116; *CIL* XIV 2827 (Zagarolo); on which, see Mrozek (2001) 45.

[213] *CIL* V 2864 (Patavium), on the date of which see Liu (2007); *CIL* X 3851. For maintenance of baths: Scaev. *Dig*. 32.35.3 (17 *dig*.); *CIL* XI 720 (Bologna). For paving public roads: Cels. *Dig*. 31.30 (37 *dig*.). For construction of an aqueduct: Paul. *Dig*. 22.6.9.5 (*de iur. et fac. Ignor*.). Also, see Johnston (1985) 106; Mrozek (2001) 46.

[214] Johnston (1985) 118-21.

[215] Papin. *Dig*. 31.77.33 (8 *respon*.). On *fideicommissa hereditatis*, see Johnston (1985); (1988) 245-8, for public purposes.

[216] On perpetual *fideicommissa*, see Johnston (1988) 6-7, 76-116. Marcian. *Dig*. 33.1.24 (8 *inst*.), who cites an imperial rescript of Severus and Caracalla, where a legacy dedicated to games is referred to as *perpetuam pensitationem*.

[217] Duncan-Jones (1982) 136-7.

[218] *Alimenta* are known largely from epigraphic evidence and are attested in about fifty Italian towns; Eck (1979) 146-89; Duncan-Jones (1982) 337-340. On imperially funded *alimenta*, see Kubitschek (1894); Veyne (1965); Duncan-Jones (1982) 132-6, 289-319, 333-46; De Neeve (1984) 167-73, 224-30, who analyses two of the most detailed *alimeta* schemes, from Ligures Baebiani and Veleia (*CIL* IX 1455, and XI 1147, respectively), as evidence for fragmentation of land ownership in Italy in the second century; Patterson (1987); Woolf (1990); Jongman (2002).

[219] *CIL* X 5056 (Atina Latii), a legacy providing aliments in both kind and cash; *CIL* X 1602 (Florentina); Mrozek (1973); Mrozek (1988) 155-6; Woolf (1990) 208-9; Mrozek (2001) 46.

[220] Perhaps already under Nerva (96-98); *Epi. de Caes*. 12.4; also, see Eck (1979) 146-56; Duncan-Jones (1982) 291-3. Certainly under Trajan (98-117); Dio 68.5.4; HA *Had*. 7.8; HA *Pert*. 9.3; *CIL* IX 1455 (Ligures Baebiani); *CIL* XI 1147 (Veleia); *CIL* VI 1492 (Ferentinum Latii, found in Rome); *CIL* IX 5825

his private fortune loans given to local landowners against landed securities, providing that the interest received on it was paid to municipalities, so that it would finance monthly child allowance.[221] Throughout the second and third centuries *alimenta* schemes were funded by emperors, as well as though the generosity of private individuals, mainly in Italy, but also outside it.[222] Questions regarding the identity and social status of donators and recipients, as well as the incentives in initiating *alimenta*, are beyond the scope of the present discussion.[223] What is important here is the financial apparatus which enabled *alimenta* schemes;[224] namely, the use of interest as a financial tool, which produced a continuous stream of revenue out of a one-off contribution, without diminishing the original amount devoted to this purpose.

Three points ought to be made. First, as pointed out by Greg Woolf, '*alimenta* were first of all, as their name shows, gifts of food, albeit commuted into cash'.[225] This phenomenon, of substituting gifts or payments of consumable goods, with those of money, is detectable also in other cases, as for example in *sportulae*, municipal

(Auximum); *CIL* X 6310 (Tarracina); Eck (1979) 156-66, who discusses Trajan's contribution to regulating *alimenta*. For Trajan's coins which refer to *alimenta*, see *BMCRE* III 82, and pp. xxviii, lii; Woolf (1990) 223-5, who also refers to other figurative media for representing *alimenta* and other benefactions.

[221] The practical operation of *alimenta* are described in the famous bronze tablets from Ligures Baebiani and Veleia; *CIL* IX 1455; XI 1147, respectively. According to the latter, the monthly allowance to boys was 16 HS, to girls and illegitimate boys 12 HS, and to illegitimate girls 10 HS. Also, see Eck (1979) 147-9, 157-65; Duncan-Jones (1982) 333-8, 341-7; De Neeve (1984) 224-30.

[222] In Italy, Plin. *Ep*. 7.18.1-3; *CIL* X 6328 (Tarracina); *CIL* XIV 4450 (Ostia, dated to the Antonines). Outside Italy, *IGRR* III 800-3 (Sillyon); *CIL* II 1174 (Hispalis); *CIL* VIII 980 (Kurba); *CIL* VIII 1641 (Sicca); *CIL* VIII 22904 (Leptis Minor); Mrozek (1973); (1988); Duncan-Jones (1982) 340-1; De Neeve (1984) 224-30; Woolf (1990) 208-9.

[223] For the social standing of some of the landowners mentioned in *CIL* IX 1455, and XI 1147, see De Neeve (1984) 224-30. In support of the view that imperially funded *alimenta* were initiated to fight rural poverty in Italy, depopulation, or a decrease in military recruitments, see Eck (1979) 177-82; Duncan-Jones (1982) 306; Patterson (1987) 129-33; Woolf (1990) 197-200, who offers a summary of the debate. Alternatively, Woolf (1990), who stresses the role of *alimenta* in supporting the emperor's status as a patron and benefactor.

[224] On imperial administration monitoring *alimenta*, see Eck (1979) 146-89, esp. 166-81.

[225] Woolf (1990) 212. Aliments were also given in kind; Ulp. *Dig*. 2.15.8.24 (5 *de omn. trib*.). Some *alimenta* provided recipients with both cash and food; *CIL* X 5056 (Atina Latii).

distributions by wealthy individuals.[226] Second, at least for imperially funded *alimenta*, the funds allocated for this purpose were usually lent out against landed property. Thus, the basis of wealth against which loans were given, and which secured the whole operation of *alimenta*, was an agricultural one: land.[227] Third, there is the issue of interest rates. In many *alimenta* schemes interest was collected at a rate of six or five per cent,[228] sometimes even lower;[229] but there were certainly *alimenta* with twelve per cent interest,[230] and at least one case is attested of a fifteen per cent *alimenta* interest rate.[231] Thus, although *alimenta* interest rates had usually operated within the institutional framework of the maximum legal rate and tended towards lower, 'common' rates, interest was determined by neither law, nor 'market-oriented' demand-and-supply forces. What presumably affected *alimenta* interest rates most was the combination of (1) the amount of the principal allocated for the *alimenta*, (2) the number of recipients at any given time, and (3) the cost of living. The interest received on the principal had to produce funds in a sufficient amount to provide for allowance to all the recipients.[232] What is more, taking into account the patronage motive generating *alimenta* schemes, it seems reasonable to assume that what mattered most was that the sums given to each individual would not

[226] *Sportulae*, once given in the form of food contributions, later substituted by money-payments; Duncan-Jones (1982) 137-44; Woolf (1990) 202-15.
[227] On the value of agricultural land in Italy, see De Neeve (1985).
[228] E.g. *CIL* XI 1147 (Veleia); Billeter (1898) 187-193; Duncan-Jones (1982) 133-7.
[229] E.g. *CIL* IX 1455 (Ligures Baebiani), with probably only two and a half per cent; Billeter (1898) 189-192.
[230] *CIL* X 6328 (Tarracina); Billeter (1898) 223-4.
[231] *CIL* V 5134 (Bergomum, second or third century); Billeter (1898) 227.
[232] This in private *alimenta*; e.g. Ulp. *Dig.* 34.1.3 (2 *off. cons.*), who states that in order to prevent freedmen from having to apply for 'small measures of aliment from individual heirs', either the recipients be distributed between heirs, or all heirs pay one of them who would be responsible for distributing the aliment to all freedmen. What mattered was finding a way in which all heirs pay equally, yet the recipients receive reasonable amounts.

only be sufficient, but also a mark of status.[233] This binds *alimenta* to the real economy, not only in terms of the cost of necessities, but also in those of standards of living.

Thus, monetary sums were legated or donated, to either individuals or communities, for either private or public purposes, to provide for allowances or to finance public operations. All these activities were achieved thanks to the instrument of interest, a financial tool which allowed the creation of a continuous stream of revenue out of a single contribution. In all of these cases interest was used not so much for the sake of creating a profit, as for the purpose of financing other, long-lasting undertakings.[234] In this respect interest had allowed for a leverage mechanism, while the activities which it financed, as well as the apparatus which secured it, were often underpinned in agricultural activity.

7.6. Profit, Wealth, and the Complexity of Roman Interest

How deeply rooted the notion of interest was in the conceptual world of agriculture, is demonstrated by its relation to the notion of *fructus*, an 'output' or 'profit' of any kind which arises naturally.[235] The term *fructus* originated in a rustic world signifying the outcome of natural reproduction.[236] During the high empire jurists customarily used it to indicate profit in general.[237] The two terms, *fructus* and *usura*—the former in essence an agricultural yield, the latter a financial one—are frequently

[233] Woolf (1990) 220.
[234] With some imperial *alimenta* schemes continuing for decades; e.g. HA *Pertinax* 9.3, where Pertinax (193) is said to have paid the arrears accumulated under Commodus' reign (180-192) of an *alimenta* scheme initiated by Trajan (98-117).
[235] On repaying monetary loans with agricultural goods, see discussion on 'Sale on Delivery' in Ch. 6, pp. 185-6, above.
[236] On *ususfructus*, see Kaser (1971) 447-454, esp. 447-9, on its origin in a rustic society.
[237] Ulp. *Dig*. 22.1.34 (15 *ad ed*.), who considers *usura* to be a yield in the same way that *fructus*, or any other revenue (*obuentio*), is; Mrozek (2001) 95-6.

mentioned together,[238] often explicitly stating that the same rule applied to both.[239] The early third-century jurist Aelius Marcianus, writing under Caracalla and perhaps also under Alexander Severus, stated that *fructus* could substitute for *usura* through either direct consumption or an indirect one, for example, via rent payment.[240] This is quite the opposite process to what we have seen in *alimenta* and *sportulae*, where monetary outflows had replaced payments in kind intended for consumption. Papyri give evidence as to how this was achieved in practice, i.e. how monetary payments due on account of interest could have been replaced by the right to enjoy *fructus*:[241] agricultural yield could be used to secure interest payments on a monetary loan;[242] alternatively, it could be agreed to begin with that interest on a monetary loan would be paid in kind, either by giving the right to collect the yield from assets belonging to the borrower,[243] or rendering the right of residence in the property of the borrower.[244]

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[238] Afric. *Dig*. 46.6.10 (3 *quaest*.); Gai. *Dig*. 35.2.73.4 (18 *ad ed. prov*.); Ulp. *Dig*. 30.39.1 (21 *ad sab*.); 40.5.24.14 (5 *fideicom.*); Papin. *Dig*. 22.1.3.2 (20 *quaest*.); 36.1.60.5 (9 *respon*.); Paul. *Dig*. 22.1.15 (16 *respon*.); 16.1 (1 *decret*.).

[239] Gai. *Dig*. 35.2.73.4 (18 *ad ed. prov*.); Marcel. *Dig*. 36.1.46.1 (15 *dig*.); Ulp. *Dig*. 5.3.20.12 (15 *ad ed*.); 24.1.17.pr. (32 *ad sab*.); 36.3.1.13 (79 *ad ed*.); Paul. *Dig*. 12.1.40 (3 *quaest*.); 46.1.59 (4 *respon*.).

[240] Marcian. *Dig*. 20.1.11.1 (*ad form. hypothec.*).

[241] Taking into account that the pre-Caracallan papyri cited in the three notes below do not preserve agreements conducted under Roman law, but such which were conducted in accord with Hellenised Egyptian law; nevertheless, what these papyri certainly do preserve is Roman practice, in the sense of the commercial practice acceptable under Roman rule.

[242] E.g. *SB* XIV 12017 (Tebtunis, 156), which records a loan (*χρῆσις*) of the principal sum (*κεφάλαιος*) of 176 *drachmae*, in which the lender is given permission to collect the yield from agricultural land belonging to the borrower in case the latter fails to pay interest on time (ll. 15-21). That this was a common practice is strengthened by its mention in Plu. *De vitando aere alieno*, *Moralia* 832.

[243] E.g. *P.Corn*. 7 (Karanis, 126), which records a loan agreement, in which the borrower (Tapetheus) acknowledged that she has received from the lender (Sambathius) 'an interest-bearing loan (*χρῆσις*) of 982 *drachmae* of silver; and in lieu of the interest upon this loan she concedes that the fruits of a quarter aroura of an olive grove which… be gathered for Sambathius until she shall have paid back the capital sum above mentioned' (ll. 3-11).

[244] E.g. *P.Mich*. XI 605 (Bakchias, Arsinoite Nome, 117), here in place of interest the lender is to have the right of habitation in the 4/27 share of a house owned in common by him and the debtors (the remainder of which also belongs to the lender); *P.Mich*. III 189 (Bakchias, Arsinoite Nome, 123), a loan contract for 60 *drachmae*, where it was agreed that instead of interest the borrower gave the lender, 'her heirs and whomsoever she may wish, permission to reside for such time as the borrower owed her the aforesaid

The relation between money and *fructus*, whether the latter refers to natural or civil (i.e. due to legal obligations) produce, arises also within the context of the Roman legal institution of *ususfructus*.[245] *Ususfructus* could be created through either *pactum* or *stipulatio*,[246] augmenting the initial agreement of the loan. It could also be created by bequest, its subject being landed property,[247] slaves or animals,[248] and even things consumed or diminished by use,[249] such as food,[250] or perishable luxury goods.[251] In the latter category the usufructuary was to furnish some sort of security for the return of 'goods of the same quality' once the usufruct ended; 'alternatively, the goods should be valued and security given for a payment of a certain sum of money (*certae pecuniae*)';[252] the latter method, Gaius notes, was the more convenient one. Thus, again, we find money acting as a unit of account, the ultimate numeraire, the evaluator of all things.

money, in the ninth and twenty-seventh common and undivided share of roomed dwellings' which belonged to the borrower (ll. 10-13, and 25-27); *P.Princ*. III 144 (Ptolemais Euergetis, 219/20 or 239/40), which, if indeed correctly restored, may give example for a loan of 200 *drachmae* (l. 8 *δραχμὰς διακοσίας*) for which interest is given in the form of the right to inhabit the half part of a house (ll. 9-10). This in fact is a somewhat more complicated transaction, as the said house also provides a security for the repayment of the loan. Such practice is evident also before the period here under investigation; e.g. *P.Mich*. XII 635 (Bakchias, Arsinoite Nome, 71) (=*SB* XII 10779), which records a contract in which three sisters agree to furnish lodging to their lender instead of paying interest on a debt of 200 *drachmae*; *P.Mich*. IX 570 (Karanis, 105/6), though fragmented, this papyri seems to be dealing with a money loan, the interest on which was given in the form of a right to occupy certain premises for five years.

[245] On *ususfructus*, see Kaser (1971) 447-54.

[246] Gai. *Dig*. 7.1.3.pr. (2 *cott*.), *ad finem*.

[247] E.g. Gai. *Dig*. 7.1.3.pr. (2 *cott*.); Ulp. *Dig*. 7.1.9 (17 *ad sab*.).

[248] Gai. *Dig*. 7.1.3.1 (2 *cott*.); Just. *Inst*. 2.4.2.

[249] *Dig*. 7.5 (*De usu fructu earum rerum, quae usu consumuntur vel minuuntur*).

[250] Gai. *Dig*. 7.5.7 (7 *ad ed. prov*.): '*vini olei frumenti*'.

[251] Ulp. *Dig*. 7.5.11 (18 *ad sab*.): '*lanae … vel odorum vel aromatum*'.

[252] Gai. *Dig*. 7.5.7 (7 *ad ed. prov*.): '*Si vini olei frumenti usus fructus legatus erit, proprietas ad legatarium transferri debet et ab eo cautio desideranda est, ut, quandoque is mortuus aut capite deminutus sit, eiusdem qualitatis res restituatur, aut aestimatis rebus certae pecuniae nomine cavendum est, quod et commodius est*'. Also Ulp. *Dig*. 7.5.11 (18 *ad sab*.), *ad finem*: '*…quod de cautione eorum loquitur*'.

Money itself could also be the subject of *ususfructus*,[253] providing that security of some sort (*cautio, satisdare*) would be supplied by the usufructuary,[254] or on her or his behalf.[255] Whether or not this security was to take a pecuniary form, is not specified by the jurists. However, the fact that Gaius labelled such a transaction as *quasi usus fructus*,[256] indicates that it established *de facto* credit relation.[257] Not just cash money, regardless of the physical manifestation it took (coinage, bullion, corn, or other), debts, too, could be the subject of *ususfructus*. In such cases the usufructuary was given a right to enjoy the interest payments;[258] and where the usufructuary was the debtor this meant that she or he was exempted from paying interest.[259] Thus, again we find interest conceptualised as equivalent to *fructus*.[260]

Calculating interest against *fructus* and vice versa is evident in cases other than loans.[261] Marcellus, when faced with a case of an heiress who was charged to transfer half of an inheritance to a third party, ruled that the interest received from obligations which were included in the inheritance was also to be transferred, as it was part of the *fructus* derived from that inheritance.[262] Here interest was included in the term *fructus*

[253] Gai. *Dig*. 7.5.2 (7 *ad ed. prov*.); Ulp. *Dig*. 7.5.5 (18 *ad sab*.); 10 (79 *ad ed*.); Julian. *Dig*. 7.5.6 (35 *dig*.); Papin. *Dig*. 7.5.8 (17 *quaest*.); Paul. *Dig*. 7.5.9 (1 *ad nerat*.); Kaser (1971) 453-4.
[254] Gai. *Dig*. 7.5.2 (7 *ad ed. prov*.); Julian. *Dig*. 7.5.6 (35 *dig*.).
[255] Papin. *Dig*. 7.5.8 (17 *quaest*.).
[256] Gai. *Dig*. 7.5.2 (7 *ad ed. prov*.); followed by Just. *Inst*. 2.4.2. However, Ulp. *Dig*. 43.18.1.6 (70 *ad ed*.), who uses *quasi ususfructus* in a somewhat different context.
[257] Kaser (1971) 454. These cases resemble a loan since the usufructuary received ownership rights over the money given as *ususfructus*; Just. *Inst*. 2.4.2.
[258] Ulp. *Dig*. 7.5.3 (18 *ad sab*.); Papin. *Dig*. 33.2.24.pr. (7 *respon*.), where part of the profits of a property legated included interest (*faenus*) on loans advanced by the deceased, the acceptance of which by the legatee, the deceased's wife, was conditioned by her providing security (*cautio*); Pompon. *Dig*. 35.2.69 (5 *ad sab*.), who states that debts (*aes alienum*) can also be part of a *ususfructus*.
[259] Ulp. *Dig*. 7.5.3 (18 *ad sab*.).
[260] Ulp. *Dig*. 7.5.10.1 (79 *ad ed*.).
[261] Ulp. *Dig*. 22.1.34 (15 *ad ed*.), who says so plainly.
[262] Marcel. *Dig*. 36.1.46.1 (15 *dig*.). A similar logic is applied by Pompon. *Dig*. 35.2.69 (5 *ad sab*.).

when the latter signified 'revenue' or 'income'.[263] In a different case concerning legacies Gaius tells of an heir who was instructed by the testator to render an inheritance to a third party on receiving from him a certain sum, and that that sum was to be paid without interest even when paid in late.[264] The reason given for the discharge from a compensating interest is that during the delay the heir enjoyed *fructus* from the property; that is, collecting *fructus* was equivalent to receiving interest.[265] In a case brought before Ulpian of reversing a defective purchase a purchaser had to transfer back ownership in order to restore the price paid.[266] According to Ulpian, in order to undo the entire transaction, the purchaser was also to render any *fructus* collected from the purchase, so that he would be given the right to recover any interest, if collected, on the purchase money. Rendering back *fructus* made the purchaser eligible to receive the interest precisely because the two were interchangeable forms of profit.

However, since the value of *fructus* rarely, if ever, corresponded to that of the interest, where a substitution between the two occurred a cap was set on the *fructus* collected, limiting it to the value of the legal maximum interest (*legitima usura*).[267] This was relatively easily achieved where landed property was mortgaged (*hypotheca*),[268] or given to a creditor as security (*pignus*),[269] from which *fructus* could be collected up to the value of the interest. *Fructus* could be collected instead of interest also in cases of

[263] *Obuentio* in Ulp. *Dig*. 22.1.34 (15 *ad ed*.).
[264] Gai. *Dig*. 36.1.65.5 (2 *fideicom.*).
[265] Also, Paul. *Dig*. 22.1.16.1 (1 *decret*.): '*iniquum esse usuras ab eo exigi, qui fructus non percepisset.*' In a similar way, if not otherwise agreed upon, *fructus* was the property of the purchaser, and not the seller, from the day of the sale, even before the day of payment and even when it was ripe; *Frag. Vat*. 15.
[266] Ulp. *Dig*. 21.1.29.2 (1 *ad ed. aedil. cur.*).
[267] Papin. *Dig*. 20.1.1.3 (11 *respon*.): '*Pacto placuit, ut ad diem usuris non solutis fructus hypothecarum usuris compensarentur fini legitimae usurae*'.
[268] Papin. *Dig*. 20.1.1.3 (11 *respon.*).
[269] Paul. *Dig*. 20.2.8 (2 *sent.*).

fideicommissa; where, in a similar way to that applied in cases of securities, if the value of the *fructus* collected from a property exceeded that of the interest, the increase was to be counted against the principal.[270] Another example is found in a somewhat more complicated transaction described by Papinian; where a creditor who was given land (*praedium*) as security (*pignus*) had sold it to a third party, without the latter knowing that he was buying from a non-owner.[271] The deceived buyer would be compelled to return the property to its rightful owner, only on receiving back from the creditor the purchase money 'plus the balance of interest for the intervening period'; assuming, Papinian adds, that such an interest exceeded the amount of *fructus* collected from the land prior to the trial.[272]

Yet, not in every circumstance could interest substitute *fructus* as income. For example, where a portion of the revenues (*reditus*) from a property (*praedium*) have been legated, and the property later sold by the heir, Scaevola ruled that these could not be replaced by the interest raised on the money obtained from the sale of the estate (*pretii usurae*).[273] The fact that such a claim was brought before a jurist supports the prevalence of using the instrument of interest for creating an enduring source of revenue; a norm already established in cases of aliments. Scaevola's negative reply, however, points to a

[270] Ulp. *Dig*. 36.4.5.21 (52 *ad ed*.). Some indication of the low value which the yields of landed property amounted to is provided in Ulp. *Dig*. 23.4.4 (31 *ad sab*.), where Ulpian cites Marcellus in stating that an agreement which allocates *fructus* as dowry is invalid 'for a pact like this gives a woman hardly any dowry at all'.

[271] Papin. *Dig*. 6.1.65.pr. (2 *respon*.): '*Emptor praedium, quod a non domino emit, exceptione doli posita non aliter restituere domino cogetur, quam si pecuniam creditori eius solutam, qui pignori datum praedium habuit, usurarumque medii temporis superfluum reciperaverit, scilicet si minus in fructibus ante litem perceptis fuit: nam eos usuris novis dumtaxat compensari sumptuum in praedium factorum exemplo aequum est*'.

[272] Similar logic is given in Gai. *Dig*. 4.4.27.1 (4 *ad ed. prov*.).

[273] Scaev. *Dig*. 33.1.21.pr. (22 *dig*.).

legal recognition which differentiated property and revenues on the one hand, from money and interest on the other hand.

Pomponius, too, recognises a fundamental difference between the two forms of yield, *fructus* and *usura*. While *fructus* 'accrues naturally' (*natura pervenit*) and arises by itself (*ex ipso corpore*) by a process of reproduction,[274] interest is the outcome of obligations, of legal agreements. This point is significant. Money does not produce a profit by itself;[275] it is the obligations taken by individuals which do so. The right of enjoyment, *ususfructus*, may refer to both natural fruits (*fructus*) and civil fruits (i.e. profits or revenues which arise from legally contracted obligations); and under the latter category interest (*usura*), too, could be part of an estate's revenues in the same way that rent (*pensio*) could.[276] However, interest was believed to be of somewhat different character from other civil fruits. Thus, for example, the distinguished Ulpian applied one rule to *fructus*, the work of slaves, transport by draft animals, carriage by ship, and rents from buildings (namely, that 'fruits to be deduced in claiming the legacy are not those which the heir has collected, but those which the legatee has been able to collect'); and another rule to interest, namely that the interest which should be accounted for is not that which the heir could have collected, but that which is in accord with the *mos regionis*, as

[274] Pompon. *Dig.* 50.16.121 (6 *ad quint. muc.*): '*Usura pecuniae, quam percipimus, in fructu non est, quia non ex ipso corpore, sed ex alia causa est, id est nova obligatione*'. That interest derives from a legal condition, is stated also in Papin. *Dig*. 6.1.62.pr. (6 *quaest.*): '*nam etsi maxime vectura sicut usura non natura pervenit, sed iure percipitur*'.

[275] Despite Plutarch's accusations against money-lenders, that 'they make a laughing-stock forsooth of the scientists, who say that nothing arises out of nothing' ('*εἶτα τῶν φυσικῶν δήπου καταγελῶσι, λεγόντων μηδὲν ἐκ τοῦ μὴ ὄντος γενέσθαι˙ παρὰ τούτοις γὰρ ἐκ τοῦ μηκέτ' ὄντος μηδ' ὑφεστῶτος γεννᾶται τόκος*'); Plu. *De vitando aere alieno*, *Moralia*, 829C. Plutarch does not reject the fact that it is the obligations taken by debtors that produce profit, but he labels it as an immoral activity, as a profit which is not created by production but rather by destruction (of debtors).

[276] Marcel. *Dig*. 36.1.46.1 (15 *dig.*); Pompon. *Dig*. 35.2.69 (5 *ad sab.*).

estimated and fixed by a judge.[277] Thus, not all that could be obtained via interest-payments should indeed be collected. Rather, interest was regulated and restricted in ways which other types of income were not. Where gains from interest are concerned, Ulpian informs us, the authorities were to be involved in setting the level of profit.

In modern perceptions money may be considered to be a general case of wealth, i.e. it is the ultimate quantifier for all other manifestations of wealth. This recognition, however, cannot be attributed to the Romans without restrictions. While all physical representations of 'money' signified 'wealth', not every type of wealth could be expressed, manifested, or transformed into money. The abstract nature of money made it a unique case of wealth; and we have already noted Javolenus' remark that 'money cannot be quantified in terms of merchandise in the way that merchandise, measured by quantity of number, may be assessed in money'.[278] Accordingly, interest, in the sense of the yield raised on money, was considered a unique case of profit. Interchanging *usura* and *fructus* may suggest that the notion of interest—as well as that of money—was perhaps still, at least partially, connected with (and dependent on) an agrarian conceptualisation of the world, in which 'value', 'profit' and 'return' were intrinsically associated with natural or agricultural productivity.[279] Thus, although money could

[277] Ulp. *Dig*. 30.39. 1 (21 *ad sab*.): '*Fructus autem hi deducuntur in petitionem, non quos heres percepit, sed quos legatarius percipere potuit: et id in operis servorum vel vecturis iumentorum vel naulis navium dicendum. Quod in fructibus dicitur, hoc et in pensionibus urbanorum aedificiorum intellegendum erit. In usurarum autem quantitate mos regionis erit sequendus: iudex igitur usurarum modum aestimabit et statuet. Ipsius quoque rei interitum post moram debet, sicut in stipulatione, si post moram res interieret, aestimatio eius praestatur. Item partus ancillarum et, si servus fuerit legatus, et hereditas vel legatum vel quid per eum adquisitum sit heres praestare debet*'.

[278] Javol. *Dig*. 46.1.42 (10 *epist*.): '*ut aestimatio rerum quae mercis numero habentur in pecunia numerata fieri potest, ita pecunia quoque merce aestimanda est*'. And, see Ch. 5, pp. 174-6, above.

[279] Severus and Caracalla recognised that the price (*pretium*) of land (*fundus*) depended on its agricultural productivity (i.e. *fructus*); Paul. *Dig*. 27.9.13.pr. (*ad orat. div. sev*.); De Neeve (1985) 82-3.

substitute payments which originally were to be made in kind, it could not do so in every circumstance.[280]

It is precisely the role of obligations combined with the appreciation of interest as a source of income which made interest relevant not only in cases of actual profit,[281] but also in cases of potential profit. To guarantee that rightful possessors would regain all of their rights,[282] Romans were guided by a somewhat nebulous notion of potential profit, that is, profit which could have been gained, though in practice was never realised. Scaevola considers as potential profit benefits which could have been derived from a certain status that was never obtained;[283] Ulpian argues that legacies should take into account profits which could have derived from *fructus* that was never collected;[284] and that money 'raised as the price of a thing sold' refers 'not only to money already exacted but also to money which could have been exacted but was not'.[285] This approach fits well with the guiding principle of 'prevention of losses', which arises from the evidence for

[280] E.g. Scaev. *Dig*. 33.1.21.pr. (22 *dig*.), discussed on pp. 232-3, above.

[281] Interest could produce a profit, in the sense of an increase in possessions or acquisition of wealth, only where revenues exceed expenses, and this appreciation did not elude the Romans; e.g. Scaev. *Dig*. 26.7.58.pr. (11 *dig*.), who reports a testator who left two of his freedmen as his son's tutors, instructing them to continue managing his affairs (*negotiatio*) in the same manner as they did while he was alive; while one tutor 'presented accounts showing the increase in business', the other presented accounts 'of the computation of interest', as was customary in the action on tutelage. Scaevola ruled that in accordance with the deceased's wish the accounts should be rendered in the former manner, since a tutor '*lucrum facere ex tutela non debet*'. Also, see De Neeve (1985) 82-3, with references to ancient texts (mainly dating to the late Republic and early empire).

[282] As Papinian puts it, Papin. *Dig*. 6.1.62.1 (6 *quaest*.), 'as a general rule, in any question concerning the valuation of profits (*fructus*)' the plaintiff ought to regain all of his property including those things that he 'would have been able to enjoy, if he had been allowed to possess the property' ('*Generaliter autem cum de fructibus aestimandis quaeritur, constat animadverti debere, non an malae fidei possessor fruitus sit, sed an petitor frui potuerit, si ei possidere licuisset. Quam sententiam Iulianus quoque probat*').

[283] Scaev. *Dig*. 32.35.pr. (17 *dig*.), where an heir who was instructed by a testator to purchase a place in a tribe for a freedman failed to do so, and was therefore liable to the heir of that freedman not only for the price of the place never purchased and the interest on that sum, but also for the benefits which the freedman would have obtained if that place in the tribe had been acquired for him.

[284] Ulp. *Dig*. 30.39.1 (21 *ad sab*.).

[285] Ulp. *Dig*. 5.3.20.15 (15 *ad ed*.). Also 9.2.7.pr. (18 *ad ed*.), where a calculation of lost future earnings may be taken into account when claiming damages.

agricultural management.[286] This principle is further stressed by Ulpian, who—where discussing the *actio utilis* provided for obligations which were to be performed in a fixed place—says that a judge setting a compensating penalty is allowed to fix sums which exceed the legal interest, since he ought to take account not only of damage (*damnus*), but also of gain (*lucrum*).[287]

The notion of potential profit affected the way Romans used the instrument of interest. Gaius talks of an interest which a seller 'has, or could have, obtained' from the purchase money;[288] Paul argues that what is due under unauthorised administration (*negotiorum gestorum*) consists not only of the capital and the interest received on it, but also of the interest which could have been received;[289] and both Scaevola and Paul hold that tutors can be sued for the interest which could have been received on their wards' money had they not neglected to invest it.[290]

In Roman aristocratic views there were two principal alternatives for investing money: buying land, the preferable Roman mode of investment,[291] and lending at interest.[292] Not buying land with a ward's money, nor lending it out at interest, made tutors liable to pay interest on it,[293] unless the funds were deposited while waiting for an

[286] Rathbone (1991); Kehoe (1997).
[287] Ulp. *Dig*. 13.4.2.8 (27 *ad ed*.): '*In hanc arbitrariam quod interfuit veniet et quidem ultra legitimum modum usurarum. Quid si merces solebat comparare: an et lucri ratio habeatur, non solius damni? Puto et lucri habendam rationem'*.
[288] Gai. *Dig*. 4.4.27.1 (4 *ad ed. prov*.): '*etiam usuras, quas ex ea pecunia perceperit aut percipere potuit*'.
[289] Paul. *Dig.* 3.5.18(19).4 (2 *ad nerat*.).
[290] Scaev. *Dig*. 26.7.58.3 (11 *dig*.): '*in nomina collocare neglexerint, usurarum nomine pupillae tutelae iudicio teneantur*'. Paul. *Dig.* 26.7.15 (2 *sent*.): '*ipse in debitam pecuniam et in usuras eius pecuniae quam non faeneravit convenitur*'.
[291] Ulp. *Dig*. 26.7.3.2 (35 *ad ed*.).
[292] Gai. *Dig*. 17.1.2.6 (2 *cott.*), who gives the two alternatives in an example which distinguishes a mandate (*mandatum*) from an advice (*consilium*); Paul. *Dig*. 26.7.49 (2 *sent*.). And, see Duncan-Jones (1982) 33-59, on the correlation of possible levels of profit for each line of investment.
[293] Ulp. *Dig*. 26.7.7.3; 7 (35 *ad ed*.); 27.4.3.6 (36 *ad ed*.).

opportunity to purchase land.[294] In any case, whether the money in question was the ward's or the tutor's, as a general rule 'money should not be left idle'.[295] This is an important point, which is further discussed in the following chapter.[296] Here suffice it to stress that failing to invest money prevented a potential profit, hence was seen as analogous to accruing a loss. Requiring compensation to be paid for a potential profit in the form of un-collected interest indicates a realisation of the role interest played in accounting for the opportunity cost, that is, the benefits which could have been received from an alternative investment. Thus, interest embodied the alternative return on money.

Did accounting for an alternative mode of operation also include capitalisation, i.e. calculating the current value of future earnings? Roman interest did take some account of the element of time. Papinian, for example, when deciding the amount to be paid as penalty, set it in accordance with the length of time exceeding that of the due-date of the obligation.[297] Some acknowledgement of the implication which time has for payments appears in the famous life expectancy table provided by Aemilius Macer (citing Ulpian) for the reckoning of aliment payments.[298] An excerpt from Africanus regarding legacies, and in particular the *lex Falcidia*, offers support to an understanding that money transfers of the same sum, which occur at different time intervals, should, in fact, be given different weights.[299] According to Africanus, an unconditional legacy was somewhat more lucrative (*est aliquanto uberius esse*) than a conditional one; for in the

[294] Ulp. *Dig*. 26.10.3.16 (35 *ad ed*.); 27.4.3.6 (36 *ad ed*.). On the possibility of raising interest on deposits, see the next chapter.
[295] Ulp. *Dig*. 27.4.3.4 (36 *ad ed*.), who says when referring to the tutor's money advanced on his ward's affairs that '*ei sterilis esse pecunia*'.
[296] See Ch. 8, pp. 263-7.
[297] Papin. *Dig.* 22.1.9.pr. (11 *respon*.).
[298] Macer. *Dig*. 35.2.68 (2 *ad leg. vices. hered.*).
[299] Afric. *Dig*. 35.2.88.3 (5 *quaest*.).

former funds are transferred to the legatee earlier than in the latter. In an excerpt from Pomponius, where two purchase offers are compared in search for the higher valued one, Pomponius says that 'if a longer period for payment of the price be granted; the amount of interest that the vendor could get for that period must be investigated'.[300] In this case interest may appear as if it was tagging a price to a time interval, in order to compute it as part of the purchase offer. It may look like a means for capitalisation, allowing a calculation of the current value of future earnings; but, in practice its aim was to account for the alternative mode of investment which a vendor could have taken had he received the purchase money earlier. At any rate, perhaps the most revealing evidence for Roman interest not being a tool for capitalisation is the fact that regardless of length of time for which interest was due the total sum that a legal interest could yield was restricted by fixing it to a ratio of twice the principal.[301]

To conclude, the Roman instrument of interest was used in a variety of situations and with quite diverse aims in mind. It operated as a fee charged on a loan, hence as an instrument to produce a profit. It was a penalty on arrears, hence functioned as a fine. It was a form of punishment, and as such its aim was to deter those taking on obligations from neglecting their commitments, and to discourage mismanagement or malpractice of some other sort. It was a tool for creating a permanent stream of revenues, on which

[300] Pompon. *Dig*. 18.2.15.1 (9 *ad sab*.): '*si dies longior pretii solvendi data fuerit, ut quaeratur, quantum ex usura eius temporis capi potuerit*'.

[301] A legal interest could not produce more than twofold of the principal. Ulp. *Dig.* 12.6.26.1 (26 *ad ed*.); Ulp. (Papin.) *Dig.* 19.1.13.26 (32 *ad ed*.); Papin. *Dig.* 22.2.4.1 (3 *respon*.). Another support for the claim that capitalisation was foreign to Roman thinking may be found in Ulp. *Dig*. 35.2.62.1 (1 *ad leg. iul. et papin.*), who states that a true value (*veritatem aestimanda*) of a thing is considered as its present price (*praesens pretium*), and not the value which it could take under certain conditions (*nec quicquam eorum formali pretio aestimandum esse sciendum est*).

public operations and private income had relied. And it was a compensatory instrument for any loss or damage a lawful possessor might have suffered. As such, it was used in connection with either actual or potential gains or losses, enabling the calculation and evaluation of an alternative *modus operandi*.

Roman interest was a complex instrument in the sense that the technicalities of contracting it were intricate and diverse; and its aim—then, as well as nowadays—was to account for (even if partially) risks concealed in future unknowns. It was complex in the sense that it was a flexible mechanism, its numerical values modified by the individuals using it, according the details of each transaction and the circumstances in which it occurred. It was complex in the sense of being a multifarious apparatus applied in a wide scale of transactions, ranging from loans and credit, to sale and rent, to legacies and tutelage. It was complex in the sense of being a device which allowed for new patterns of activity to be created; such as the use of interest for producing perpetual alimentary schemes, or for calculating an alternative mode of operation. And it was complex in the sense that it allowed individuals to self-adjust their use of the instrument of interest itself, altering and widening its application according to their own needs and the continuously evolving system in which they operated.

Chapter 8: Interest-Bearing Deposits

> Sed contra bonam fidem et depositi naturam est usuras ab eo desiderare temporis ante moram, qui beneficium in suscipienda pecunia dedit.
>
> Papin. *Dig*. 16.3.24 (9 *quaest*.)[1]

8.1. Introduction

The question of interest-bearing deposits is highly relevant for a society's attitudes towards money. Whether or not pecuniary deposits may yield a profit—to either the depositor by way of interest, or the depositary through usage of the deposit, or charge of custody-fees—is persistently connected to how a society and the individuals within it perceive money. Where money deposits cannot yield interest,[2] the primary reason and outcome of a deposit being its safekeeping, one may expect the role of money as a store of wealth to dominate its other roles. Where money deposits regularly yield interest, suggesting that depositing money is seen as an investment track, deposits may allow for a leverage mechanism. The existence of interest-bearing deposits of monetary sums suggests that money is treated more freely as a financial instrument, with the potential of capitalising other economic activities.

Any discussion on interest-bearing deposits in the Roman empire conceals a difficulty. The modern term 'deposit' often refers to a financial practice, and, as is shown below, this financial sense also is found in Roman contexts. At the same time, 'deposit'

[1] Papin. *Dig*. 16.3.24 (9 *quaest*.): 'But it is contrary to good faith and to the nature of deposit to expect interest before delay [in the return of the money] from the man who conferred a kindness by taking it into safekeeping'.

[2] And even more where its acceptance is conditioned by custody-fees.

also carries the meaning of a social institution, which often has a wider connotation associating it with trust and moral obligations. To these should be added the Roman legal meaning of 'deposit', which refers to a strictly defined legal contract, *depositum*; a contract that had clear restrictions regulating its application, theoretically making the charging of interest on a deposit impossible.

The present chapter offers an analysis of the practice of interest-bearing deposits in the Roman empire as it arises from evidence for three legal systems operating under Roman regime: Roman law as preserved in Roman legal sources, mainly in Justinian's *Digest* and *Codex*; Greek-Hellenistic practice as preserved in papyri from Roman Egypt; and Jewish law as preserved in the *Mishnah*, a redaction of Jewish oral traditions dated to the *Pharisaic* period (536 BCE – 70 CE), written down during the *Tannaim* period (approx. 10–220 CE), and concluded according to tradition by Rabbi Yehuda haNasi (c. 220 CE).[3] Though each system followed its own internal logic, which dictated its procedures and development; and though in each system the legal technicalities regarding both deposits and charging interest were somewhat different; this chapter argues that all three legal systems give evidence for the same phenomenon. Namely, that during the period here under investigation financial deposits which could bear interest had become common practice, and an integral part of the financial tool-kit of the empire's better off inhabitants. As detailed below, each of the three legal systems faced this change somewhat differently; yet, what united all was an initial starting point of perceiving the

[3] Jewish legal sources for the *Amoraim* period (approx. 220-500), i.e. the *Babylonian* and the *Jerusalem Talmud*, generally stand beyond the period here under research, hence have not been consulted.

legal institution of deposits as an agreement which was initially established on a moral obligation.

8.2. Moral Aspects of Deposits

In the ancient world deposits were first and foremost a morally-oriented institution. As a general rule, deposits were given for the sake of safekeeping, rather than for profit making. The depositor, for one reason or another, was (or felt as one) incapable of guarding her or his possessions, be these objects or living things,[4] therefore, approached another for assistance in safekeeping it. The depositary took on the obligation, which was essentially a moral one, to hold the deposit, guard it, and return it intact to the depositor upon demand.[5]

From archaic times deposits were entrusted to the divine. In the Hellenistic East for centuries valuables, including sums of money, were deposited at sanctuaries and temples for safekeeping.[6] In Xenophon's *Anabasis*, Xenophon is reported to have deposited his money before his departure to the east with Artemis of Ephesus for safekeeping, with the instructions that the deposit (*παρακαταθήκη*) be transferred to the Goddess had he not returned from his anabasis.[7] Centuries later, Caesar in his *Civil War* mentions the money which from ancient times had been deposited in the Ephesian temple of Artemis/Diana.[8] Entrusting money with the divine was not a practice unique to the Greeks. In *Maccabees*, Book Two, we are told of Heliodoros, a minister under Seleucus

[4] On depositing immovables, see Michel (1962) 71-2; Zimmermann (1996) 214-5.
[5] Glück (1813) 137- 44; Bogaert (1968) 332; Kaser (1971) 534-5.
[6] Dignas (2002) 24.
[7] Xen. *Anab*. 5.3.5-7.
[8] Caes. *Civ.* 3.33.

IV (187-175 BCE), who wished to confiscate the treasures of the Temple at Jerusalem, where deposits (*παραθήκη*) of widowers and orphans were entrusted;[9] but the priests at Jerusalem prayed to their God, who had given them the Laws of Deposits (*παραθήκης νομοθετήσαντα*),[10] and so, with divine interference, the Temple's treasures were saved from plunder, deposits included.[11]

Money was entrusted to the divine not solely for the sake of safekeeping *per se*. For example, the *Mishnah* preserves a verdict of Hillel the Elder,[12] the head of the Great *Sanhedrin* (the highest Jewish assembly and High Court) at the turn of the first century CE, who ruled that when a seller of a house wished to enjoy his right according to Jewish law to abolish the transaction within a year's time from the date the sale took place,[13] but the buyer avoided accepting back the purchase money, the sale could be revoked if—and this is the interesting point for the current discussion—the indecisive seller entrusted the purchase money at the Temple at Jerusalem for the buyer to come and collect it whenever he pleased.[14] Here, money is entrusted with the divine for safekeeping where the temple acts as a neutral trustee and a negotiator for the conclusion of an economic interaction between parties. From the date the purchase money was entrusted at the temple, the only one allowed to make use of it was its true owner, i.e. the buyer.

Greek and Hellenistic temples were often economically more active, engaging in banking operations as both debtors and creditors.[15] It should be stressed that even though

[9] *Maccabees* 2.3.10.
[10] *Maccabees* 2.3.15.
[11] *Maccabees* 2.3.10-30.
[12] *Masechet Arakhin* 9.4.
[13] *Exodus* 25.29-30.
[14] *Masechet Arakhin* 9.4.
[15] The economic role of cults is beyond the scope of the present research; on which, see Dignas (2002). On the banking operations of temples, see Bogaert (1966); (1968).

Greek and Hellenistic temples were certainly involved in banking activities, sums which they received as deposits—from citizens, foreigners, rulers, or communities—seem not to have been used, or to have been borrowed from.[16] Dio Chrysostom, for example, just before the start of the period here under investigation, says that the Ephesians would have preferred to use Artemis' own jewellery before taking from deposits entrusted with the Goddess.[17] Hence it may logically be concluded that money deposited with the divine was presumably kept separate from the deities' own resources.[18]

Also deposits which occurred within the mortal sphere, between individuals or communities, were considered a moral obligation which enjoyed divine protection. In Biblical law a depositary ("guardian", *shomer,* שומר) is cleared from suspicion of pilfering an unfound deposit, if he takes an oath under the name of God that he was not the thief.[19] Similarly, a depositary is exempt from compensating a depositor whose deposit had been destroyed or injured, if the former takes an oath under the name of God that he was not responsible for the default.[20] Herodotus puts in the mouth of the Spartan Leotychides addressing the Athenians the tale of the righteous Glaukos son of Epikydes, who, after he was entrusted by a Milesian with a deposit (*παρακαταθήκη*) of half his money (*τὰ χρήματα*), refused to return it to the depositor's descendants on demand (*ἢ ἀπαιτεόντων ἀποδιδόναι*); for which crime the gods have punished Glaukos by utterly

[16] As Dignas (2002) 146, puts it: 'the city's institutions'—within which Dignas includes also temples—'showed respect for private property when it was handed over to their protection'.
[17] Dio Chrys. 31.54-6; discussed in Dignas (2002) 146-8, 197-8, also 24.
[18] Bogaert (1968) 279-304, on temple-banks, esp. 281-8, on deposits, 249, on deposits in the temple of Artemis in Ephesus.
[19] *Exodus* 22.7.
[20] *Exodus* 22.9-12.

removing his house and name from the ranks of the Lacedaemonians.[21] Thus, safeguarding a deposit was a duty which was believed to have been overseen by the Gods themselves—Philo of Alexandria even calls it *ἱερώτατη παρακαταθήκη*[22]—, with divine forces protecting depositors by supervising the righteousness of depositaries.

8.3. Roman Law

In Roman law *depositum* was a contract for safekeeping, based on 'good faith',[23] where neither depositor nor depositary was to receive interest, or other remuneration. Yet, documentary evidence and the writings of the Roman jurists themselves indicate that some pecuniary deposits certainly did yield an interest. In the scholarship such interest-bearing deposit came to be known as *depositum irregulare*;[24] though this term is not Roman, and appears in the sources of neither classical nor post-classical Roman law.[25]

Most of the imperial rescripts which relate to the topic belong to a period later than the one here under investigation; while the relevant *Digest* excerpts give rise to much suspicion of interpolation,[26] with some excerpts containing internal

[21] Hdt. 6.86. Though this tale should be understood within the context of the political struggles between Sparta, Athens, and Aegina, it does not reduce the status of deposits as a divinely protected institution.
[22] Ph. *Special. Leg.* 4.30.
[23] Gai. *Inst.* 4.62.
[24] Probably the first modern monograph published on the topic is that of Theodor Niemeyer, *Depositum irregulare* (1889), *non vidi*. For more recent discussions, see Geiger (1962); Michel (1962) 74-94; Simon (1965); Buckland (1963) 469-70; Klami (1969); (1986); Kaser (1971) 536; Gandolfi (1976); Maschi (1973) 381-407; Litewski (1974); (1975); Gordon (1982); Vigneron (1984), with reference to earlier bibliography; Bürge (1987) 536-55; Zimmermann (1996) 215-9.
[25] For centuries the phrase *depositum irregulare* has been used by scholars; Glück (1813) 150-2. It signifies either a deposit which can yield interest, or one where equivalent but not the same object(s) entrusted are to be returned; Litewski (1974) 216-7. The mid sixth-century *antecessor* Stephanus, commentating on Paul. *Dig*. 16.3.26.1 (4 *respon*.), uses the phrase *depositum impurum* (*μὴ καθαρὸν δεπόσιτον*); Stephan. *Schol*. 4 [6] *ad Bas*. 13.2.26.1; Heimbach. 2.54; Maschi (1973) 381-2. For Stephanus' commentary on Justinian's *Digest*, see Scheltema (2004) 75-9, 122-3, 331-7 (I would like to thank Dr. Avshalom Laniado for bringing this publication to my attention).
[26] Discussed in detail in Klami (1969); (1986).

inconsistencies.[27] The interpretation of the documentary material in line with Roman legal evidence is anything but straightforward. Opinions are divided as to the dating of a Roman custom of the so-called *depositum irregulare*, with the range of dates suggested starting from the late Republic,[28] to Justinian's time.[29] However, nowadays many scholars accept the view that no such unified doctrine of *depositum irregulare* had ever existed.[30] It is also generally accepted that the inclination of Roman jurists towards a relaxation of the legal formalities of *depositum*, which allowed for the so-called *depositum irregulare*, should be dated towards the end of the classical period of Roman law.[31] The nature of influence between Roman and Greco-Hellenistic practices has also been a source of scholarly disputes. While many scholars hold the view that the Roman practice originated from, or at least was influenced by, the Greek-Hellenistic one,[32] there are also arguments in favour of mutual influence,[33] and for the claim that the late Hellenistic practice was in fact influenced by its exposure to the Roman imperial one.[34] In what follows, I argue that the case is not one of cultural or legal assimilation, but rather of a change in economic reality, due to shifts in the cognitive institutional framework within which individuals operated. Interest-bearing deposits became a

[27] E.g. Paul. *Dig*. 16.3.26.1 (4 *respon*.), on which, see discussion on pp. 252-4, below.
[28] Arangio-Ruiz (1928) 59f., *non vidi*; Bonifacio (1947) 80-3; Vigneron (1984) 308, with further reference.
[29] Schulz (1949) 257, who talks of a 'Byzantine origin of the *depositum irregulare*'; Maschi (1973) 381-407. For a summary of the various opinions, see Gandolfi (1976) 149-53; Vigneron (1984) 307-8; Michel (1962) 93-4, who suggests that the practice was introduced during the third century, later to be confirmed by Justinian's legislators; Klami (1969) 227-8, who rejects the assumption that Justinian introduced a formulised legal institution of *depositum irregulare*.
[30] Gordon (1982); Bürge (1987) 536-7, 554; Zimmermann (1996) 217.
[31] Kaser (1971) 536; Gandolfi (1976) 148-84; Vigneron (1984) 307; Bürge (1987) 536-55.
[32] Schulz (1949) 255; Geiger (1962) 17-9; Simon (1965) 61, n. 93; Kühnert (1965) 135-8; Kaser (1971) 536; Litewski (1974) 224-5; Vigneron (1984), who talks of 'the resistance of Roman law to Hellenistic influences'; Zimmermann (1996) 217.
[33] Klami (1969); Simon (1965) esp. 66, who claims that what is termed *depositum irregulare* is in many respects the outcome of an attempt to force various instances of *παραθήκη* under Roman legal categorisation, which was alien to the Greek-Hellenistic way of thinking.
[34] Klami (1986).

common phenomenon, regardless of the legal system to which people were subject, be it Roman, Egyptian-Greek-Hellenistic, or Jewish; and each system had its own dynamics in facing these changes.

In Roman law deposits were entrusted via a contractual procedure called *depositum*, which was a real obligation, coming into existence only after the deposit was given. Originally *depositum* was advanced for the sake of safekeeping, a sort of a gratuitous loan.[35] Hence, the depositary was supposed to neither make use of the deposit,[36] for this could render the transaction a *mutuum*;[37] nor be remunerated for accepting it,[38] for this hypothetically could render it a *locatio conductio* (*operarum*) for hiring a guard. Depositaries could expect to receive compensation for any expenses or damages caused by accepting the deposit,[39] but not to be rewarded for the acceptance itself. Unlike other real obligations—*mutuum*, *commodatum*, and *pignus*—*depositum* was intended primarily to benefit the giver rather than the receiver.[40] Thus, the latter was not expected to recompense the former for advancing it, as the depositary had already benefited the depositor by accepting the deposit to begin with.[41]

[35] Ulp. *Dig*. 16.3.1.pr. (30 *ad ed*.). On the responsibilities of the depositary, see Michel (1961) 61-6.
[36] Gai. *Inst*. 3.196; Kaser (1971) 535. Unless the depositor gave explicit authorisation to the depositary to use the deposit; Ulp. *Dig*. 12.1.9.9 (26 *ad ed*.).
[37] Ulp. *Dig*. 12.1.10 (2 *ad ed*.), on treating this sort of transaction as *mutuum*.
[38] Papin. *Dig*. 16.3.24 (9 *quaest*.); Ulp. *Dig*. 17.1.10.3 (31 *ad ed*.); Michel (1962) 56-73, 83-4, 103-27; Kaser (1971) 535; Andreau (1987) 533-44; (1999) 40-2, 141-2.
[39] Mod. *Dig*. 16.3.23 (2 *diff*.); Kaser (1971) 535.
[40] Zimmermann (1996) 217.
[41] Papin. *Dig*. 16.3.25.1 (3 *respon*.); Paul. *Dig*. 22.1.18.1 (3 *respon*.); Ulp. *Dig*. 26.7.7.7 (35 *ad ed*.); Michel (1962) 56-73; Andreau (1987) 529-30; Zimmermann (1996) 205-14.

As a general rule, the very same thing given in *depositum* had to be returned.[42] This restriction, at the face of things, seems to have applied also to financial pecuniary deposits given in the form of the legal contract of *depositum*; in such a case, according to Papinian, *ut corpora nummorum eadem redderentur*.[43] This requirement—to return the very same coins deposited—meant that instead of treating the coins deposited as *quantitas*, i.e. as a sum (*tantundem*) to be repaid with any equivalent coins,[44] the coins were treated as specified artefacts, i.e. as *corpora*.[45] This had directly affected the prospects of retrieving interest on deposits. For how could a depositary attain the funds needed for interest payment if the deposit cannot be used to make a profit? And how could a depositary use the money and still return *corpora nummorum eadem*? Thus, for reasons which were both ethical and practical, officially Roman deposits were not supposed to yield any interest.[46]

The very same coins deposited could be returned without much difficulty when money was deposited sealed,[47] or marked in some way.[48] Otherwise, difficulties would

[42] Paul. *Dig*. 12.1.2.pr. (28 *ad ed*.); Ulp. *Dig*. 42.5.24.2 (63 *ad ed*.); Paul. *Coll*. 10.7.9; Just. *Inst*. 3.14.3; Klami (1969) 5-7.

[43] Papin. *Dig*. 16.3.24 (9 *quaest*.). For possible interpolation, see Michel (1962) 81-4; Klami (1969) 46-58; Gordon (1982).

[44] Papin. *Dig*. 16.3.24 (9 *quaest*.). On *tantundem* as signalling that the deposit was of a *quantitas*, see Glück (1813) 157-63; Zimmermann (1996) 216.

[45] Coins could be treated as *corpora* also in the context of an inheritance; Papin. *Dig*. 30.51 (4 *quaest*.). On coins in sale transactions treated as *quantitas*, rather than *corpora*, see Daube (1959) 17; and Ch. 4, p. 118, above.

[46] Papin. *Dig*. 16.3.24 (9 *quaest*.), the verb used is *commendo*, therefore the case ought to have concerned a *depositum*: '*quid est enim aliud "commendare" quam "deponere"?*'; Ulp. *Dig*. 50.16.186 (30 *ad ed*.): '*"Commendare" nihil aliud est quam deponere*'; Ulp. *Dig*. 42.5.24.2 (63 *ad ed*.); Michel (1962) 82; Buckland (1963) 467-8; Klami (1969) 32, for a summary of preceding scholarship; Kaser (1971) 536; Klami (1986) 92. However, a depositary in default of returning a deposit could be charged with a penalising interest; Papin. *Dig*. 16.3.25.1 (3 *respon*.); *CJ* 4.34.2 (Gord., 238); Klami (1986) 99-100.

[47] Papin. *Dig*. 22.1.7 (2 *respon*.). On the distinction between sealed and unsealed money deposits in Jewish law of the period, see pp. 264-5, below.

[48] Afric. *Dig*. 46.3.39 (8 *quaest*.), *pecunia signata*. On *tesserae nummulariae*, see Herzog (1919); Klami (1969) 23-4; Andreau (1999) 80-89.

arise when wishing to distinguish specific coins deposited out of a larger group of coins of similar appearance and value. According to the late Republican jurist Publius Alfenus Varus, in such cases monetary deposits could in fact be treated as *quantitas*, the deposit then repaid not by the same coins but by an equal sum.[49] Unsealed money deposits could be repaid with an equal sum (*tantundem*) also according to Papinian.[50] And a similar approach emerges from a ruling of Paul in a case where a deposit of *viginti nummorum saccum* was mistakenly switched with that of thirty. In this case Paul not only regarded the depositor as one who had regained his deposit, but also held him responsible for pilfering the additional ten.[51] No matter which sack of coins the depositor accepted, his own or another's, he is considered to have recovered his deposit. Thus, deposited money was not exclusively treated as *corpora*, but could in practice also be perceived as *quantitas*; thereby, acknowledging the randomness characteristic of money, i.e. the ability to replace any one piece of it with an equivalent other without diminishing its value.

This recognition allowed for a phenomenon known in the literature as 'open deposits',[52] where the depositor gave explicit permission to the depositary to make use of the deposit. Giving depositaries legal authorisation to employ deposited money meant allowing them to profit from it.[53] Why then should not depositors, too, profit from the use of their own property?[54] Such a line of thought had surely existed in Rome, as can be

[49] Alf. *Dig*. 19.2.31 (5 *a paul. epit*.); on which, see Michel (1962) 75-7; Litewski (1974) 229-34; Bürge (1987) 538. Also, see Ulp. *Dig*. 27.4.3.2-3 (36 *ad ed*.), who, when considering a ward's money used by a tutor, allowed for a substitution of it by an equal sum.
[50] Papin. *Dig*. 16.3.25.1 (3 *respon*.).
[51] Paul. *Dig*. 47.2.21.1 (40 *ad sab*.).
[52] A common term in the scholarship; e.g. Klami (1969); (1986) 97-9; Bürge (1987) 536f.
[53] Ulp. *Dig*. 12.1.9.9 (26 *ad ed*.); 12.1.10 (2 *ad ed*.), where the situation may be regarded as *mutua* or *credita pecunia*.
[54] Kaser (1971) 536, who argues that interest collected on deposit should be seen as a compensation for the use of the principal: 'Unter diesem Einfluß hat wohl schon das spätklassische Recht einen gleichartigen

concluded from an imperial rescript of the emperor Gordian (238-44), where a direct link is made between using deposited money and paying interest on it.[55]

It appears that a tension existed between official procedure and actual practice, which also applied to the interest-bearing potential of deposits. Deposits could be entrusted under a condition that if certain terms occurred, the receiver would turn the deposit into a loan, in which case interest would be due from the date the condition became operative.[56] This way the strictness of law was observed, while interest could still be collected. However, despite legal formalities, explicit statements of testators that no interest is to be charged on deposits suggest that interest-free deposits were not the only custom.[57] Some deposits did yield interest;[58] for example, deposits entrusted by testators with a third party for custodial purposes.[59]

Further evidence for interest-bearing deposits derives from rulings concerning the distribution of assets in the case of bankruptcy. Where bankers reached insolvency, depositors would receive priority over other creditors in recovering their possessions, but only under the condition that no interest had been received.[60] According to Roman jurists, depositors who had accepted interest on their deposits no longer gained precedence over other creditors in retrieving their property, since legally they would be 'considered to have renounced their deposits'.[61] Hence, in cases of interest-bearing bank deposits not

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Verwahrungsvertrag anerkannt, bei dem der Verwahrer nach Maßgabe der *bona fides* zur Zinszahlung als Entgelt für die Kapitalnutzung verpflichtet ist'.

[55] *CJ* 4.34.4 (Gord., 238-244).

[56] Ulp. *Dig*. 12.1.4.pr. (34 *ad sab*.); on which, see Michel (1962) 84-5; Afric. *Dig*. 17.1.34.pr. (8 *quaest*.).

[57] Scaev. *Dig*. 34.3.28.8 (16 *dig*.); 36.1.80.1 (21 *dig*.); Michel (1962) 78-9.

[58] Bürge (1987) 536-48; Andreau (1999) 40-1.

[59] Scaev. *Dig*. 26.7.47.4 (2 *respon*.); 32.37.5 (18 *dig*.); Bürge (1987) 539-41.

[60] Ulp. *Dig*. 16.3.7.2 (30 *ad ed*.); 42.5.24.2 (63 *ad ed*.); Papin. *Dig*. 16.3.8 (9 *quaest*.); Klami (1969) 196-218; (1986) 97-9; Michel (1962) 85-91; Litewski (1975) 287-91.

[61] Ulp. *Dig*. 16.3.7.2 (30 *ad ed*.).

only was the *actio depositi* not available for recovering interest, but furthermore the acceptance of interest prevented depositors from using the *actio depositi* also for retrieving the principal. Instead their deposits were treated as instances of advancing credit,[62] with the right to employ the relevant legal actions.

Yet, despite the jurists' reluctance to consider interest-bearing bank deposits as "true" deposits, such deposits were certainly not unheard of.[63] Interest-bearing bank deposits seem not to have presented any fundamental difficulties to either bankers or depositors. As long as economic undertakings developed more or less satisfactorily, the arrangement which allowed deposits to bear interest benefited both parties. Problems arose when one party, the banker, was incapable of meeting commitments; forcing the other party, the depositor, to seek legal aid in order to protect her or his interests. Moving the banker-depositor relationship from the economic sphere to the legal one, confronted the parties with the rigidity of Roman law, which did not allow for interest-bearing deposits. Roman jurists, reluctant to loosen juristic definitions, faced this problem with a realistic approach.[64] In giving their verdict they gave priority to what actually had occurred over the arrangement agreed upon between the parties. That is, what mattered

[62] Bogaert (1968) 307, who, while distinguishing between active banks' operations (credit) and passive ones (deposits), recognises operations which stand between these two categories: '…ou entre opérations principales et accessoires ou entre opérations portant uniquement sur des espèces monétaires (dépôt-crédit) et celles qui portent sur des effets, marchandises, devises etc.'

[63] Gordon (1982) 367, who says—on the basis of Ulp. *Dig*. 16.3.7.2-3 (30 *ad ed*.); 42.5.24.2 (63 *ad ed*.)—that interest-bearing bank deposits were 'quite usual', though, in p. 364, he states that 'it does not appear that… [the question of *depositum irregulare*] arose solely in relation to deposits with bankers'; Klami (1986) 92-3, who stresses the lack of evidence in the literary sources for interest-bearing bank deposits; Bogaert (1968) 333-51, who considers interest-bearing bank deposits in the Greek-Hellenistic banking system; Tenger (1993) 66, who says that the majority of *παραθήκη* contracts from the first three centuries CE seem not to have been conducted via bankers, and argues that many private individuals acted as depositaries listing (in n. 245) only fifteen cases indicating the participation of bankers. Thus, it is better to be cautious before considering interest-bearing bank deposits as the commonest practice.

[64] The relevant legal evidence had been analysed in Klami (1969); Michel (1962) 75-94; Litewski (1974); (1975).

from a juristic perspective was whether or not interest had been collected. If so, the matter exceeded the limit of a deposit; if not, the case could be accommodated within the *actio depositi*. Yet, even if jurists were reluctant to permit the use of the *actio depositi* where interest had been collected, at the same time they did not forbid the practice altogether. They simply evaded providing it with legal aid. Their scholastic, at times almost casuistic, replies should be interpreted as a desire to avoid a direct confrontation between law and actual practice. Their sometimes confusing answers should be seen as an attempt to reconcile, if only to a certain degree, juristic ideals with the practice of *de facto* interest-bearing deposits.

Next to be considered is a much debated excerpt from Paul's *Responsa*:

> Lucius Titius ita cavit: 'Ἔλαβον καὶ ἔχω εἰς λόγον παρακαταθήκης τὰ προγεγραμμένα τοῦ ἀργυρίου δηνάρια μύρια, καὶ πάνταποιήσω καὶ συμφνῶ καὶ ὡμολόγησα, ὡς προγέγραπται· καὶ συνεθέμην χορηγῆσαί σοι τόκον ἑκάστης μνᾶς ἑκάστου μηνὸς ὀβόλους τέσσαρας μέχρι τῆς ἀποδόσεως παντὸς τοῦ ἀργυρίου.' Quaero, an usurae peti possunt. Paulus respondit eum contractum de quo quaeritur depositae pecuniae modum excedere, et ideo secundum conventionem usurae quoque actione depositi peti possunt.[65]

Here Paul cites a Greek document in which the writer acknowledged receiving a sum of ten thousand *denarii*, had promised to repay it, and agreed to pay interest on it. The document, presumably cited in its original language, names the contract as *παρακαταθήκη*. Paul takes it to be a case of *depositum* supplemented by an agreement for

[65] Paul. *Dig*. 16.3.26.1 (4 *respon*.): 'Lucius Titius made a declaration as follows: "I have received and have on deposit the above-mentioned ten thousand *denarii*; and I shall do everything and agree and have promised as has been set out above; and I have bound myself to pay you as interest for each mina, four oboli every month, until the whole sum is paid off;" I ask whether interest can be claimed. Paul replied that that contract about which inquiry is made exceeds the limit of a deposit of money, and, therefore, in accordance with the agreement, interest can also be claimed in an action on deposit'.

the interest.[66] The question arises whether with the *actio depositi*, which theoretically does not allow for interest, nevertheless, interest may be claimed on account of the *secundum conventionem* (which was probably a *pactum adiectum*[67]). Paul's reply, as we have it, states that the agreement is more than a *depositum*, i.e. it is not restricted by the nature of this contract, and therefore (*et ideo*) interest may be claimed with the *actio depositi*; which—if indeed this had been the case—had probably acted here as a legal "carrier".

The text has long been thought to be interpolated.[68] It was likely abbreviated in order to focus discussion on the question of interest, which was probably less central in Paul's original reply.[69] On a grammatical basis and the seemingly illogical *et ideo* clause, it was argued that Paul answered the question regarding the interest negatively; the negation later omitted by the compilers in order to fit the answer to the so-called doctrine of the *depositum irregulare*, allegedly customary under Justinian.[70] Today it is accepted that no such formulised legal institution named *depositum irregulare* can be detected in

[66] However, see Gordon (1982) 366, who argues that 'we do not know the whole arrangement between the parties and the acknowledgement of the deposit should not be taken out of its context and explained as if it stood on its own'.

[67] Klami (1969) 91-3; Litewski (1975) 300. Theoretically, if *secundum conventionem* is to be read as parallel to the *contractum*, then we might be looking at two stipulations, one for the loan and the other for the interest; however, the Greek appears not to imply that several stipulations took place; but, see Gordon (1982) 370-1, who explains why the additional agreement could not have been a *stipulatio*.

[68] Lenel (1889) vol. 1228, n. 1; Geiger (1962) 40-2; Michel (1962) 91-2; Klami (1969) 90-5; Litewski (1975) 299; Gordon (1982) 369; Bürge (1987) 548.

[69] According to Lenel (1889) vol. 1, 1227, n. 2, this excerpt could not have derived from a section in Paul's *Responsa* which dealt with deposits. Therefore, other, probably more essential, issues with which Paul was concerned must have been omitted by Justinian's compilers (or their predecessors), so as to fit the excerpt under the *Digest* 16.3; Gordon (1982) 369-72.

[70] Schulz (1949) 259-60; Geiger (1962) 40-2; Michel (1962) 91-2, who thinks that Paul allowed the use of the *actio depositi* for retrieving the principal, but not the interest; Klami (1969) 90-3, with further references to the different suggestions brought forth of reconstructing the omitted negation; Litewski (1975) 298-300; Bürge (1987) 547-8; Zimmermann (1996) 218.

Roman law at any given time.[71] This appreciation, however, does not necessarily refute arguments in favour of a missing negation.[72] Nevertheless, even if one assumes an interpolation which reversed Paul's original verdict, the fact that the *actio depositi* was considered as an option for claiming interest should not be underestimated. Whether or not Paul accepted using the *actio depositi* for suing for interest on deposits, he certainly considered it a possibility. Had interest-bearing deposits been alien to normal custom, there would have been neither reason nor motive to consider this *actio* to begin with.

This excerpt—in which the Greek formula of *παρακαταθήκη* is understood by a prominent jurist as Paul to be equivalent to the Roman contract of *depositum*—is a good stimulus to turn to the eastern provinces and the Greek-Hellenistic practice as it came to be formulated under Roman rule.

8.4. Greek-Hellenistic Practice

The Latin word *depositum* could be translated into the Greek word *θέμα*, which in the Hellenistic period had often signified deposits. However, in documentary evidence from the Roman period *θέμα* is rarely used in this sense.[73] Instead, starting from the first century CE the terms *παραθήκη* and *παρακαταθήκη*—which should be understood as referring to the same type of contractual formula[74]—frequently appear in Roman

[71] Klami (1969) 227-8, who showed that inconsistencies and self-contradictions detected in the alleged Justinian interpolations indicate that Justinian did not introduced a uniform *Rechtsinstitution* of *depositum irregulare*. His view is now generally accepted; Gordon (1982); Bürge (1987) 536-7; Zimmermann (1996) 217.

[72] Klami (1969) 94, who himself attributes an omission of a negation to a mistake of a scribe, which occurred sometime in the line of transmission.

[73] Bogaert (1968) 331, n. 153; Klami (1969) 22-3.

[74] Kastner (1962) 70-82, who argues for a difference between the two terms, *παραθήκη* and *παρακαταθήκη*, which had to do with an emphasis on the loyalty relation between the parties. However, his view is refuted by Simon (1965) 39-66, esp. 44, n. 19, who claims that the two terms were interchangeable;

Egyptian papyri.[75] *Παρα(κατα)θήκη* contracts were normally used for the restoration of deposited property, whether or not banks were involved.[76] Roman jurists seem to have understood both *παραθήκη* and *παρακαταθήκη* as equivalents of the Latin *depositum*.[77] However, whereas *depositum* was a *contractus*, and is attested to have been perceived as such even in non-legal texts,[78] *παρα(κατα)θήκη* was a contractual formula, rather than a specific type of transaction.[79] This meant that while *depositum* mainly referred to safekeeping, the range of transactions contracted via *παρα(κατα)θήκη* was potentially wider.[80] It included, in addition to safekeeping,[81] also financial transactions carried out through bankers,[82] participation in business ventures,[83] and concealment of dowry contracts in *de facto* marriages of soldiers.[84]

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followed by Roth (1970) 6; Tenger (1993) 61, n. 216, who accepts that no substantial difference existed between the two terms, and ascribes the difference in spelling to the habit of the writer: *παραθήκη* appears in the contracts themselves, while *παρακαταθήκη* appears in petitions and court transcripts. It should be noted that the verb of the more "ornamented" form *παρακαταθήκη*, *παρακατατίθεναι*, already appears in the sense of 'to entrust in deposit' in inscriptions from the fourth century BCE; Lazzarini (1998). On *παρακαταθήκη* in Greek law in its pre-Hellenistic manifestations, see Ehrhardt (1958).

[75] E.g. the grapheion-register from Tebtunis; *P.Mich*. II 121; 123; 124; 125; 128 (Tebtunis, 42-49); on which, see Roth (1970) 2-3; Tenger (1993) 61-2.

[76] Ehrhardt (1958); Simon (1965); Bogaert (1968) 331, n. 153; Maschi (1973) 404.

[77] Paul. *Dig*. 16.3.26.1 (4 *respon*.); Scaev. *Dig*. 32.37.5 (18 *dig*.).

[78] Already at the eve of the period here under investigation; Quint. *Decl*. 278.1.1.

[79] Roth (1970) 2; Klami (1986) 91-2.

[80] Kaser (1971) 534, n. 1: 'Fälle der hellenistischen παρακαταθήκη, die umfassender ist als das römische depositum, haben die Klassiker bald diesem, bald der donatio, bald dem fideicommissum zugerechnet'. On the range of agreements contracted via *παραθήκη* in the pre-Roman period, see Simon (1965) 44-6; Roth (1970) 5-7; Tenger (1993) 61-3. On the wider range of meanings of the verb *παρακατατίθημι* compared with *deponere*, see Klami (1969) 23.

[81] E.g. *BGU* XV 2458 (Arsinoite Nome, 177), which tells of a veteran who during his tenure had deposited 800 *drachmae* with his former comrader. On Domitian's so-called *depositum militare*, see *FIRA* III 126 (unknown origin, 117) (=*PSI* IX 1063), which preserves acknowledgement of deposits by soldiers written in Greek, which uses *ὑπὲρ δηποσίτου* (l. 5) and *εἰς δη[πό]σιτον* (l. 13); Schulz (1949) 255-6; Litewski (1974) 223-4; Maschi (1973) 403-5.

[82] E.g. *PSI* VIII 921 (Arsinoite Nome, 143/4), ll. 10-23, a *παραθήκη* settled through bankers; *P.Oxy*. XLI 2975 (Oxyrhynchos, 198), an acknowledgement of a return of a deposit, where the depositor, probably frightened of travelling with a large sum of money over the Western Desert, had deposited 360 *drachmae* at a bank at the Ammonias oasis (known as Siwa), and two or three years later had re-collected his deposit through the agency of an Oxyrhynchite (banker?), most probably at Oxyrhynchos. Also, see Bogaert (1968) 331-51.

Despite the fact that *παρα(κατα)θήκη* contracts were used in a range of situations, starting from the first century CE typical features of this contractual formula can clearly be identified.[85] These include: (1) A lack of information concerning interest payment,[86] which fits well with the Roman legal restriction for collecting interest on deposits. (2) The right of the giver to recall her or his belongings at any given time,[87] which also reconciles with Roman practice.[88] And (3) a *δίπλη*-clause, doubling the amount owed in cases where the contract had not been completed.[89] A penalty which doubles the original sum is known from other ancient legal systems;[90] and, specifically, the *δίπλη*-clause may be paralleled with the *duplum* punishment known already from early Republican Rome,[91] though no longer in use by the time Rome took over Egypt.[92]

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[83] E.g. *P.Brem.* 51 (Apollonopolite Nome, first half of the second century), the author of the letter asked the recipient to deposit for him by a *παραθήκη* 3,000 *drachmae* with a third party, with which he wished to make some sort of purchase.

[84] E.g. *BGU* I 114 (Arsinoite Nome, 98) (=*M.Chr*. 372, Coll. I-II); *BGU* III 729 (unknown origin, 144). Also, see Geiger (1962) 12; Simon (1965) 58-9; Roth (1970) 11; Tenger (1993) 10-11.

[85] For the claim that the origin of the *παραθήκη*-formula lies in the Ptolemaic period, see Kastner (1962) 2-3; Kühnert (1965) 118-9; followed by Tenger (1993) 62; but, see Roth (1970) 4-5, for the view that the formula was established only in the Roman period.

[86] Simon (1965); Klami (1986) 95; Tenger (1993) 62.

[87] The formula often contains a promise of the depositary to return the deposit 'whenever [the depositor] chooses without any delay (or excuse)'; e.g. *P.Athen*. 28 (Theadelphia, 86), ll. 18-19, *ἐὰν αἱρῆται ὁ Πετερμοῦθις ἄνευ / πάσης ὑπερθέσεως καὶ εὑρησιολογ(ίας)*; *P.Lond*. II 310 (Pelusion, Arsinoite Nome, 146), ll. 14-15, *[ἃς] καὶ ἀπ[οδώσειν αὐτῇ ὁπ]ήνικα ἐὰ[ν ἡ] / Ἀρσεῖς ἀπαιτή[σῃ ἄ]νευ πάσης ὑπερθέσεω(ς)*; *CPR* I 29 (Ptolemais Euergetis, 184), ll. 16-18, *ἣν καὶ ἀποδώσι αὐτῇ ὁπηνίκα / ἐὰν αἱρῆται ἄνευ πάσης ὑπερθέ[σε]ως καὶ κρίσε/ως καὶ εὐ[ρη]σιλογίας*; *P.Mich.Inv*. 175 (Heracleopolis, 180-188), published in Youtie (1978), l. 5, *ἐὰν αἱρῇ ἄνευ πάσης ὑπερθέσεως*; *P.Warr*. 6 (Ptolemais Euergetis, 198/9) (=*SB* V 7535), ll. 18-19, *ὁπότα[ν] αἱ[ρ]ῆ̣τ[αι ἄνευ πάσης ὑπερθέσεως] / καὶ εὑρησιλογίας*.

[88] Kaser (1971) 534-5.

[89] E.g. *P.Lond*. II 298 (Ptolemais Euergetis, 124), ll. 18-19, *τὴν παραθή/κην διπλῆν*; *P.Mich.Inv*. 829 (Theadelphia, 129), published in Youtie (1977), l. 21, *τὴν παραθήκην διπλῆν*; *P.Prag*. I 31 (Herakleia, 148), ll. 15-16, *τὴν παραθ(ήκην) διπλῆν*. For the view that the *δίπλη/duplum* penalty in *παραθήκη* contracts did not derive from Ptolemaic law, see Roth (1970) 99-100; Klami (1986); Tenger (1993) 61-2.

[90] For the Hammurabi Law, see Klami (1986) 94-5, with reference to further bibliography. A penalty doubling the original sum with regard to deposits appears also in Biblical law; *Exodus* 22.6-8; a text which both Philo of Alexandria (Ph. *Special. Leg.* 4.30-8), and Josephus (J. *AJ* 4.8.38.285f.), understand as referring to the *δίπλη παραθήκη*; Ehrhardt (1958) 33-7.

[91] E.g. *The Twelve Tables* I.21 (=Gai. *Inst*. 3.190); VI.2 (=Cic. *Off*. 3.65); VIII.5 (=Plin. *NH* 18.3.12); VIII.9 (=*FIRA* III 20); Paul. *Coll*. 10.7.11; Crawford (1996) no. 40, pp. 555-721. Also the *Lex Coloniae*

From the first century onwards one finds in the papyri also references to a *νόμος τῶν παραθηκῶν*, which seems to have included all of the three components mentioned above.[93] What is more, towards the end of the second century the components of this *νόμος* were known well enough, so as to sometimes be neglected or dropped all together; presumably, because it sufficed to mention the phrase *νόμος τῶν παραθηκῶν*, which implied these three characteristics.[94] Opinions vary widely as to the nature and origin of this *νόμος*. Even if its origin lies in older practices,[95] the appearance of this phrase in documentation does not predate the Roman period. It has been suggested that it was an outcome of a now-lost Roman imperial constitution advanced sometime in the 30s or 40s.[96] However, as argued by Dieter Simon and later accepted by Hannu Klami, the use of the word *νόμος* speaks against this proposal.[97] The available evidence suggests that it sprang directly from neither Ptolemaic nor Roman law.[98] Rather, it was a practice which gained new popular acceptance during the Roman period. Whether the *νόμος* was a formulised convention, which developed under Roman rule,[99] or whether it was a fiction,

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Genetivae Iuliae seu Ursonensis (47-44 BCE), Ch. LXI ll. 6-7, mentions *duplum* punishment, *FIRA* I 21 LXI; Crawford (1996) no. 25, pp. 393-454.

[92] Klami (1986) 94-5.

[93] The earliest evidence is perhaps *P.Tebt.Wall* 9 (Tebtunis, 33), l. 17, *κατὰ τὴν τῶν παρ[αθηκῶν*, which mentions repayment upon demand; Tenger (1993) 62. The earliest complete example of a *παραθήκη* contract which mentions the *νόμος* is *P.Athen*. 28 (Theadelphia, 86).

[94] E.g. *P.Mich.Inv*. 175 (Herakleopolis, 180-188), ll. 5-7, published in Youtie (1978), where the *δίπλη*-clause is not specified.

[95] Geiger (1962) 17-9; Simon (1965) 61, n. 93; Kühnert (1965) 135-8, and 119, who argues (somewhat unconvincingly) that *παραθήκη* contracts, though unattested for Ptolemaic Egypt, were indeed used at that period, however solely in an illiterate form.

[96] Kastner (1962) 42-5; Simon (1965) 61, n. 93.

[97] For reasons why the word *νόμος* suggests that the *νόμος τῶν παραθηκῶν* should not be attributed to an imperial constitution, see Simon (1965) 61, n. 93; Klami (1986) 95.

[98] Roth (1970) 99-100; Klami (1986).

[99] Simon (1965) 61-2; Roth (1970) 35, who suggests that using *παραθήκη* and *χρῆσις* as credit formulae developed in connection with the lowering by half of the maximum legal interest rate that followed Roman conquest of Egypt, and encouraged individuals to find new ways to conceal interest rates higher than the new maximum of twelve per cent; Klami (1986) 95-6, who suggestes that the formation of the

advanced to allow a penalising *δίπλη*-clause to appear as an outcome of ancestral law, thereby gaining recognition in Roman courts,[100] the fact stands that it appears in papyri only from the Roman period.

The appearance of the *νόμος τῶν παραθηκῶν*, as well as the emerging dominance of *παρα(κατα)θήκη* contracts,[101] is to be explained against the alternatives offered by the available legal formulae used in Egypt at that time. Both are manifestations of a change in the institutional environment, which followed the Roman creation of the province of Egypt. This change was stimulated, among other factors, by the introduction of the Roman maximum legal interest rate, which was half that of the Ptolemaic one.[102] A desire to continue old habits—more importantly, to retain former levels of profit—encouraged creditors to shift their use from one juristic formula, namely *δάνειον*,[103] to others, namely *χρῆσις* and *παραθήκη*, which presumably allowed (an easier) concealment of interest rates higher than twelve per cent.[104] This shift sometimes led to confusion in the use of credit-related terminology. A mixture of terms is evident for *δάνειον* and *χρῆσις* already from the last decades of the first century,[105] and for *δάνειον* and *παραθήκη* in the second

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νόμος τῶν παραθηκῶν should be attributed, among other factors, to possible influences of Roman law on local Egyptian-Hellenistic practices, which had predated the Roman takeover of Egypt.

[100] Roth (1970) 91-5, 100.

[101] E.g. its appearances in the *grapheion*-register of Tebtunis; *P.Mich*. II 121; 123; 124; 125; 128 (Tebtunis, 42-49); Tenger (1993) 62.

[102] What follows is guided by Roth (1970).

[103] *Δάνειον* was the commonest formula used for business credit in Ptolemaic Egypt and usually involved a clause stating the rate of interest; Kühnert (1965) 12; Roth (1970) 12; Tenger (1993) 9. *Δάνειον* contracts are considered those contracts which contain either the noun *δάνειον*, or a form of the verb *δανείζειν*; Tenger (1993) 10. On *δάνειον ἄτοκον*, see Roth (1970) 22-34.

[104] Roth (1970) 35; Bagnall (1977) 92, who, relying on Pestman (1971), argues that '*ἄτοκος* referring to a loan does not indicate that no interest was charged, but rather that no interest was charged on the amount stated, i.e. interest was included in the amount of the loan'. On the replacement of *δάνειον ἄτοκον* by *χρῆσις ἔντοκος*, see Roth (1970) 35-53.

[105] *SB* VI 9512 (Theadelphia, 87/88), where one finds *χρῆσιν ἔντ[οκον* on the recto l. 10, and *δάνιον* on the verso l. 20. In several papyri the verb *δανείζειν/δεδανεῖσθαι* is used together with the noun *χρῆσις*: *PSI* V 470 (Hermopolis, 102/103), l. 3; *P.Col.Inv*. 17 (Arsinoë, 146), published in Sheridan (1986), l. 10

century.[106] It indicates a blurring of the once clear distinction between different formats of credit. As part of this process, available legal formats were adjusted to accommodate for somewhat different activities, casting new content into existing formulae. The increasing use of *παρα(κατα)θήκη* contracts in *de facto* loans forged a new reality, in which this contractual formula contained new applications.[107] It had now customarily accommodated deposits as well as loans, the latter often bearing interest. Since the same legal format was applied for both interactions, it is likely that the division between the two was becoming less clear. Thus, came to be deposits which at the same time could function as interest-bearing loans. One may assume that this had increased the attractiveness of deposits, gradually creating, *de facto* though not *de jure*, interest-bearing deposits. This was not an intentional legal innovation; rather, it was a novelty which sprang from a change of habits in the use of available legal formulae.

But could it not be that this change of practice was restricted to Roman-Egypt alone? Hypothetically, it could. However, the appearances of the so-called *depositum irregulare*—that is, the occurrences of legal cases in which Roman jurists seem to have considered easing legal formalities to allow for the existence of interest-bearing

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(*χρῆσιν ἔντοκον*) and l. 15 (*δεδάνισμαι*); *P.Flor.* I 1 (Hermopolis, 153) (=*M.Chr.* 243), Frag. B, ll. 29-31; *BGU* I 301 (Arsinoite Nome, 157), l. 5 (*ἐδανισάμην*) and l. 16 (the transaction labelled *χρήσῃ*); *P.Lips.* I 12 (third or fourth century), ll. 13-14. Also, see Roth (1970) 52-3, 87-8; Tenger (1993) 9, 28-30.

[106] Simon (1965) 60, 63-5; Roth (1970) 11, who points out two papyri in which the terms *δάνειον* and *παραθήκη* are used for the same artefacts: *P.Mil.Vogl*. I 25 (Tebtunis, 127), col. III, l. 37 – col. IV, l. 2; *P.Oxy*. II 237, (Oxyrhynchos, 186), col. V, l. 21; to which Roth adds Grenfell and Hunt (1906) 61 (unknown origin, 136), col. VI, l. 19 (*παρακαταθήκῃ*), and l. 22 (*δάνειον*). To these may be added perhaps *P.Laur*. I 2 (Arsinoite Nome, 148), where *παραθεμένης* appears in l. 3 and *δ]ανείου* in l. 4. However, the papyrus is fragmentary and the full context is missing; the middle participial of *παρατίθημι* may have referred here to some sort of 'proof' (*εἰς ἀπόδειξιν*), i.e. providing or showing evidence, rather than to a deposit of a sum of money.

[107] Roth (1970) 11, 21-2, 53-6, who suggests that *παραθήκη* contracts were commonly used not solely for safekeeping, but also as a type of loan, hypothesising that in the latter case not mentioning an interest rate meant that the *παραθήκη* was used to conceal a usurious rate; but, see Tenger (1993) 64-7, for objections to Roth's analysis.

deposits—may suggest that the phenomenon was common enough also outside of Egypt. This hypothesis is next examined within the context of another, third, legal system practiced within Roman regime, namely that of Jewish law.

8.5. Jewish Practice

I wish first to state that by no means is this section a general review of the Jewish Laws of Deposits,[108] nor of the Jewish laws for charging interest in the Roman period.[109] Rather, its aim is to view Jewish legal sources for the period—mainly, the *Mishnah*—with regard to deposits, and to do so with Roman law in mind. The present examination looks for changes in practice, and especially evidence for the possibility of it accommodating interest-bearing deposits. Thus, it aims to broaden our understanding of the context within which interest-bearing deposits had presumably become a habitual phenomenon in the Roman empire.

There are some aspects of the Jewish Laws of Deposits which resemble those attested in Greek-Hellenistic and Roman laws.[110] Obviously there was the issue of safekeeping the deposit,[111] and returning it unharmed to the depositor upon demand.[112] As a general rule, the depositary was to compensate the depositor for a loss or injury of the deposit; but only if the damages were not an outcome of *vis major*.[113] The compensation for loss of or damage to a deposit was a penalty, which doubled the

[108] On the Laws of Deposits (*Dinei Shomrim*, דיני שומרים; literally 'Laws of Guardians') in the *Tannaim* period, see Henshke (1997), with further bibliography.
[109] For which the starting point remains, Weingort (1979).
[110] For a comparison of Greek and Jewish laws, see Ehrhardt (1958).
[111] The origin of the Jewish Laws of Deposits is Biblical; *Exodus* 22.6-12.
[112] Ph. *Migr*. 91, who gives such return (*ἢ παρακαταθήκης ἀπαιτεῖν*) as one of the tasks which are not to be performed on the seventh day (the *Shabbat*).
[113] *Exodus* 22.9-12.

original sum, similarly to the Greek-Hellenistic *δίπλη*-clause attested in *παρα(κατα)θήκη* contracts. This twofold penalty appears already in Biblical law on deposits,[114] and is later repeated in the *Mishnah*.[115] Both Philo of Alexandria,[116] and Josephus[117]—our most prominent Jewish sources from the first century CE, whose writings have survived independent of Rabbinic literature, hence not influenced by later Jewish traditions—take the Biblical text in *Exodus* as referring to the *δίπλη παραθήκη* known to them from their own time.[118]

The *Mishnah*, and following it also the *Talmud*, include under the Laws of Deposits (literally, the 'Laws of Guardians') four categories of depositaries/guardians, each with his own liabilities:[119] a borrower (*Shoel*, שואל), who was obliged to return the same object given to him, and which entered a contract that can be paralleled to the Roman contract for *commodatum*; a lessee, or a tenant (*Sokher*, שוכר), who can be paralleled with the *conductor* in the Roman *locatio conductio* (*rei*);[120] a depositary (*Shomer Hinam*, שומר חינם), who was expected not to receive payment for safeguarding a deposit, and who entered a contract that can be paralleled to the Roman *depositum*; and a trustee (*Nosse Sakhar*, נושא שכר; elsewhere in this *Mishnah* tractate, *Bava Metzia*, which deals with the Laws of Guardians, this type of "guardian" is referred to also as *Shomer Sakhar*, שומר שכר [121]), who was hired to safeguard a deposit—be it a thing, place, or

[114] *Exodus* 22.6-8.
[115] *Masechet Bava Metzia* 3.1.
[116] Ph. *Special. Leg.* 4.30-8, esp. 33.
[117] J. *AJ* 4.8.38.285f.
[118] Ehrhardt (1958) 33-7.
[119] *Masechet Bava Metzia* 7.8: *ארבעה שומרים הם--שומר חינם, והשואל, נושא שכר, והשוכר. שומר חינם, נשבע על הכול; והשואל, משלם את הכול. נושא שכר והשוכר--נשבעים על השבר ועל השבויה ועל המתה, ומשלמין את האבידה ואת הגניבה.*
[120] On the trichotomy of *locatio conductio* into *rei*, *operarum*, and *operis*, see Ch. 5, pp. 135-6, above.
[121] On the transition from the name *Nosse Sakhar* to that of *Shomer Sakhar*, see Henshke (1997) 44-7.

person—, and whose liabilities may be paralleled with those of a *conductor* hired to perform the task of a guard under the so-called *locatio conductio operarum*.

The first two types of "guardians" (*Shomrim, שומרים*) are irrelevant to the present topic of inquiry; unlike the distinction between the latter two, *Shomer Hinam* (*שומר חינם*) and *Shomer Sakhar* (*שומר שכר*).[122] Owing to the nature of Jewish legal sources, in which excerpts are preserved often with no regard to chronological boundaries, it is hard to say when precisely this legal distinction was first created. By the time of concluding the redaction of the *Mishnah* (c. 220 CE) it had already been an integral and binding part of Jewish law; but in Biblical law neither *Shomer Hinam* nor *Shomer Sakhar* is mentioned.[123] When was the distinction between the two made?[124] Philo of Alexandria, writing in the first half of the first century, when considering the Laws of Deposits does not mention the two types of "guardians", neither *Hinam* nor *Sakhar*; rather, he builds his discussion on the Biblical categorisation of deposits according to the subject of the deposit, i.e. objects or living things.[125] A few decades afterwards, Josephus, too, makes no use of the expressions *Shomer Hinam* and *Shomer Sakhar*, and does not imply that such a distinction was known to him.[126]

Turning to the *Mishnah*, the first issue to arouse suspicion as to the fact that the distinction between *Shomer Hinam* and *Shomer Sakhar* was not a binding one, and perhaps not even in existence, when the written structure of the *Mishnah* was first formulated, is the location of the categorisation into the four type of "guardians" within

[122] While the former (*Shomer Sachar, שומר שכר*) was bound to compensate the depositor in cases of theft or loss of the deposit, the latter's (*Shomer Hinam, שומר חינם*) liability was more restricted.
[123] *Exodus* 22. 6-12; also Henshke (1997) 12-3.
[124] What follows relies on Henshke (1997) 8-23.
[125] Ph. *Special. Leg.* 4.35-6; and Henshke (1997) 22-3.
[126] J. *AJ* 4.8.38.

the tractate *Bava Metzia*.[127] One would expect that such clear categorisation would open the discussion on the Laws of Deposits, which appears in the third chapter of the tractate. However, that chapter opens with a verse which echoes and elaborates on the Biblical text,[128] while the categorisation into four types of "guardians" appears only four chapters later, within a discussion of the obligations and liabilities of tenants (*Sokherim*, שוכרים).[129]

The explanation for this, advanced by David Henshke, whose view on this matter is here largely accepted, is that the categorisation into four types of "guardians" was invented, or at least had become legally binding, only after the structure of the *Mishnah* was already formulated, but while the process of its redaction was still taking place.[130] Henshke talks of a 'first *Halakha*', which did not know a categorisation into two types of "guardians", *Hinam* and *Sakhar*, but only one, a depositary, i.e. 'that person to whom a deposit is entrusted' (*tzeh ha'mafkidin etzlo*, זה המפקידין אצלו ; *mi she'ha'pikadon etzlo*, מי שהפקדון אצלו);[131] and a later, 'second *Halakha*', which not only acknowledged the distinction between the two "guardians" (*Hinam* and *Sakhar*), but also saw the categorisation into four types of "guardians" as mandatory.[132] Henshke is cautious not to give strict chronological lines as to when the second system was invented;[133] instead he prefers concentrating on when it became the accepted view of the Sages of the *Mishnah*. According to Henshke, even though a later text[134] may potentially suggest that the "four

[127] *Masechet Bava Metzia* 7.8.
[128] *Masechet Bava Metzia* 3.1, whose focus is on the distinction between a missing deposit and one which had been damaged; Henshke (1997) 1-16.
[129] This obscurity is noted in Daube (1944) 379-81; followed by Henshke (1997) 28.
[130] Henshke (1997) 27-8.
[131] *Idem* 24-5.
[132] *Idem* 34.
[133] *Idem* 21, n. 84, who suggests that the two systems, one with a distinction between *Shomer Hinam* and *Shomer Sakhar*, the other without, could have co-existed in Jewish practice for some time.
[134] *Mekhilta de-Rabbi Ishmael*, *Nezikin Order*, 17.

guardians system" was already known to Rabbis Akiva and Jose the Galilean, at the first decades of the second century;[135] there is no straightforward evidence for it to have been the accepted (i.e. dominant) *Halakha* prior to the period of the students of Rabbi Akiva (c. 40-137),[136] i.e. the "four guardians system" became binding only after the start of the period here under research.

If Henshke's view is accepted, then this means that sometime during the first half of the second century actual practice of entrusting deposits had seen such changes that the Sages felt a need to make a mandatory legal distinction between depositaries who had not accepted charge for safekeeping a deposit (*Shomer Hinam*), and those who had (*Shomer Sakhar*).[137] One possible explanation is that by the time a distinction between *Shomer Hinam* and *Shomer Sakhar* became binding, some deposits regularly had become an investment track, while at the same time depositing solely for the sake of safekeeping was still a widespread phenomenon. The Sages of the *Mishnah*—perhaps like Roman jurists of the same period[138]—wished to distinguish between the two types, so as to offer depositors legal protection which was in accord with the actual transactions taking place.

The last point to be considered is the *Mishnah*'s specific consideration of depositing coined money. For the entrusting of coins the Sages of the *Mishnah* considered three types of potential depositaries: a private individual (*ba'al ha'bait*, בעל הבית), a banker (*shul'hani*, שולחני; which is a literal translation of the Greek *τραπεζίτης*), and a shop-owner (*hen'vani*, חנווני). And for each type of depositary they considered two

[135] Henshke (1997) 19-21.
[136] *Idem* 21, esp. n. 84, also pp. 32, 117-31.
[137] In *Bava Metzia* chapter three (on deposits), only *Shomer Hinam* is mentioned; while *Shomer Sakhar* and *Nosse Sakhar* both appear in the tractate, but not in the chapter on deposits.
[138] As in the rulings on the bankruptcy of bankers, discussed on pp. 250-1, above.

instances, either the coins were deposited sealed (*tzrurin*, צרורין), or unsealed (*mutarin*, מותרין).[139] In the former case, where coins are deposited sealed, or tied together in some other form, no matter who the depositary was—a banker, a shop-owner, or a private individual—the depositary was forbidden to use the deposit. In the latter case, where coins are deposited unsealed, i.e. dispersed, Jewish law gave different observations for the different types of depositaries. Where the depositary was a private individual, whether or not the coins were deposited sealed, the depositary was not allowed to use them; and therefore, if he kept safe the deposit 'as guardians should', the depositary was not liable for its loss. Where the depositary was a banker, and the coins were deposited with him not sealed or closed in some other way, he was permitted to make use of them; therefore, was liable for their loss. Where the depositary was a shop-owner and coins were deposited with him dispersed, opinions divided whether he was to be treated as a banker, or as a private individual. There is no mention in the *Mishnah* verse concerning these distinctions to either *Shomer Hinam* or *Shomer Sakhar*. Thus, it is quite possible that the verse was formulated before the authoritative acceptance of the distinction between these two types of "guardians".[140] Yet, what is clear from this verse is that bankers were certainly allowed to make use of money deposited with them; a ruling, one may presume, which was influenced by contemporaneous Greek-Hellenistic practice. Whether or not depositors who rendered bankers the right to make use of the money they

[139] *Masechet Bava Metzia* 3.10-11: *(10) המפקיד מעות אצל חברו--צררן והפשילן לאחריו, מסרן לבנו ולבתו הקטנים, ונעל בפניהם שלא כראוי--חייב, שלא שמר כדרך השומרים; ואם שמר כדרך השומרים, פטור. (11) המפקיד מעות אצל השולחני--אם צרורין, לא ישתמש בהן; לפיכך אם אבדו, אינו חייב באחריותן. ואם מותרין, ישתמש בהן; לפיכך אם אבדו, חייב באחריותן. אצל בעל הבית--בין כך ובין כך, לא ישתמש בהן; לפיכך אם אבדו, אינו חייב באחריותן. החנווני כבעל הבית, דברי רבי מאיר; רבי יהודה אומר, כשולחני.*

[140] Henshke (1997) 37-8. According to the logic of the later *Halakha*, that of the four types of "guardians", where a banker accepted sealed coins this was a case of *Shomer Hinam*, and where dispatched that of *Shomer Sakhar*.

deposited were rewarded in the form of recieving interest on their deposits, is not referred to in the tractate. One may assume that they very well may have been; yet this observation stays in the realm of an educated guess and no more.

8.6. Back to Roman Law

That by the early third century *de facto* interest-bearing deposits had become an empire-wide phenomenon may be suggested by an excerpt from Ulpian, where it is stated that tutors who converted their wards' money to their own use were liable to pay interest on it, but 'someone who has not lent it at interest, or has not deposited it, has certainly not turned the money into his own use'.[141] It follows that using money meant either lending it at interest or depositing it. In both cases a tutor was to pay interest to the ward; and it can logically be concluded that this was so, because in both cases the tutor had benefited from the ward's money, i.e. had himself received interest on it. If this was indeed the case, than interest-bearing deposits became a rather widespread convention. In fact, from an excerpt from Scaevola it appears that as early as the second century, at least within the context of providing care for the property of minors, interest-bearing deposits were common practice.[142] In this excerpt a codicil is cited in Greek, in which a testator acknowledged receiving as deposit (*παρακαταθήκη*) a sum of five thousand *denarii* which were to be paid with interest (*σὺν τόκῳ*) to a certain Maximus on his reaching puberty, by which

[141] Ulp. *Dig*. 26.7.7.4 (35 *ad ed*.): '*ceterum non utique qui non faeneravit vel non deposuit, in suos usus vertit'.*

[142] Scaev. *Dig*. 32.37.5 (18 *dig*.): '*Codicillis ita scripsit: "Βούλομαι πάντα τὰ ὑποτεταγμένα κύρια εἶναι. Μαξίμου τῷ κυρίῳ δηνάρια μύρια πεντακισχίλια, ἅτινα ἔλαβον παρακαταθήκην παρὰ τοῦ θείου αὐτοῦ Ἰουλίου Μαξίμου, ἵνα αὐτῷ ἀνδρωθέντι ἀποδώσω, ἃ γίνονται σὺν τόκῳ τρὶς μύρια, ἀποδοθῆναι αὐτῷ βούλομαι· οὕτω γὰρ τῷ θείῳ αὐτοῦ ὤμοσα". Quaesitum est, an ad depositam pecuniam petendam sufficiant verba codicillorum, cum hanc solam nec aliam ullam probationem habeat. respondi: ex his quae proponerentur, scilicet cum iusiurandum dedisse super hoc testator adfirmavit, credenda est scriptura'.*

time the total sum will amount to thirty thousand *denarii*. In the excerpt as we have it Scaevola's only concern regards the question whether or not on account of this codicil it could be concluded that the testator had indeed bound himself by an oath to pay these sums. Scaevola makes no reference to the issue of interest-bearing deposits, and it seems as if he—and presumably also the parties—accepted without dispute the fact the *παρακαταθήκη*, which Scaevola takes to be a *depositum*, could be done for interest.

Once *de facto* interest-bearing deposits entered common practice, this was prone to have had economic consequences. Allowing depositors to collect interest on their deposits meant, first of all, that depositing with others had become more attractive, as it was now generally accepted as an investment track. It also meant that at least some of the money, which in the past was deposited only for the sake of safekeeping, could now be employed in economic activity.[143] As *de facto* interest-bearing deposits became more acceptable it permitted deposited money to be treated more freely as a financial investment, with depositaries further employing it in other economic activities, thereby potentially allowing for a leverage mechanism, whose outcome might have been a widening of the money supply.

The conceptual consequences are also significant. Accepting the right of depositors to gain interest on their deposits corresponds with a wider approach detectable also elsewhere in Roman law, according to which wealth, no matter which form it took, was not to be left idle.[144] This precise terminology is attested in an excerpt from Scaevola's *Responsa*, where Quintus Caecilius Candidus acknowledged in a letter to

[143] Rathbone and Temin (2008) 397-8, who interpret the Sulpicii archive as evidence for interest-bearing bank deposits.

[144] Ulp. *Dig.* 27.4.3.4 (36 *ad ed.*): '*ei sterilis esse pecunia'*, regarding a tutor's money advanced on his ward's affairs; discussed on p. 271, below.

Paccius Rogatianus that he had received the latter's money and entered it into his account (*ad ratiunculam meam*), and that he would see to it that this 'money should not be kept idle', that is to say, as Caecilius Candidus elaborated, 'I shall make it my business that you get interest on it'.[145] The transaction attested here includes the transfer or entrustment of a sum of money (presumably coinage), its record in the account-books, and the promise of the receiver to make best efforts to employ the sum so that it would yield interest. Although the transaction is not named *depositum*, its first part certainly fits such a contract, and the fact that it appears in the *Digest* under section 16.3, which deals with deposits, suggests that it was indeed a *depositum*.[146]

The question which is raised for the second-century jurist is whether or not on the strength of this letter interest can be collected. Scaevola answers affirmatively, justifying his answer with the somewhat vague explanation that this was a *bona fide* action. In the text, as we have it,[147] Scaevola does not specify which *bona fide* action is in question. It could have been a *mandatum*;[148] or, alternatively, it may very well have been a *depositum*, a view supported by the fact that the text appears under *Digest* 16.3.[149] If indeed Scaevola had considered this a *depositum*, the *bona fide* action referred to being the *actio depositi*, this is quite a remarkable ruling. The jurist's positive answer regarding the collection of interest meant that he acknowledged the letter as the documentation for

[145] Scaev. *Dig*. 16.3.28 (1 *respon*.): '*quibus ut primum prospiciam, ne vacua tibi sint: id est ut usuras eorum accipias, curae habebo'*.

[146] Geiger (1962) 31-3; Klami (1969) 36-9; Litewski (1974) 239; Gordon (1982) 365.

[147] Even if one assumes that the wording of the excerpt had not been interpolated, it was surely abbreviated; Klami (1969) 36-9; Litewski (1974) 237-8.

[148] Segrè (1907) 232, n. 3; Michel (1962) 80-1. But see Klami (1969) 36-7, for a structured analysis of the various views concerning the *bona fide* action in question (plus bibliography), as well as convincingly rejecting the possibilities that it was *mutuum*, *condictio*, or *receptum argentarii*; Litewski (1974) 240-1, who explains why the possibility of *mandatum* should be refuted.

[149] Geiger (1962) 31-3; Klami (1969) 36-9; Litewski (1974) 239; Gordon (1982) 365. This text is often considered in discussions of the so-called *depositum irregulare*.

an additional agreement augmenting the *depositum*, which could have been enforced with the *actio depositi* acting as a legal "carrier". We have already seen a similar approach in a reply given by the third-century jurist Paul, who accepted a letter recording an obligation to pay interest as a binding commitment agreed in a *secundum conventionem.*[150] Furthermore, the jurist's positive answer meant an implicit recognition of the right of depositors to collect interest on their deposits, and therefore, also, of the right of depositaries to employ, i.e. invest, deposited money.[151]

Could such relaxation of Roman legal formalities—according to which the *actio depositi* can only be used to recover that which was deposited, interest excluded—reasonably be assumed to have come from a second-century jurist? The second part of Scaevola's answer conditions the depositor's right to collect interest on the strength of the letter by either the collection of interest by the letter's author himself, or by the fact that the latter had employed the money for his own use.[152] This condition brings the discussion back to the connection made above[153] between interest payment on the one hand, and the use (or enjoyment) of a monetary sum on the other hand. As seen in the previous chapter, as a general rule, one who had used another's money (*qui in usus suos convertit*) had to pay interest on it.[154] Such connection, between using money and paying interest on it, appears in the context of deposits in the ruling of the emperor Gordian mentioned above;[155] but could it be accommodated within the context of *depositum* also

[150] Paul. *Dig*. 16.3.26.1 (4 *respon*.), on which, see discussion on pp. 252-4, above.
[151] Michel (1962) 80; Litewski (1974) 242.
[152] Scaev. *Dig*. 16.3.28 (1 *respon*.): '*Respondi deberi ex bonae fidei iudicio usuras, sive percepit sive pecunia in re sua usus est*'.
[153] In Ch. 7, pp. 203-4, above.
[154] Ulp. *Dig*. 17.1.10.3 (31 *ad ed*.); 26.7.10 (49 *ad ed*.); and see the previous chapter for further references.
[155] *CJ* 4.34.4 (Gord., 238-244).

by a second-century jurist? The jurist's justification for his positive reply suggests that he permitted the depositor to collect interest not so much on account of a *secundum conventionem* (or a *pactum adiectum*), but rather due to the *bona fide* nature of the transaction, presumably a deposit. Scaevola ruled in favour of interest payment not due to the mere *use* of another's money, but rather due to the implications which derived from the legal situation. Because in *bona fide* actions one should not profit from another's property,[156] any interest collected on a deposit had in fact belonged to the rightful owner of the money.

Theoretically, interest paid to the depositor could have been a penalty inflicted on the depositary on account of misusing a deposit. Such an interpretation could have well reconciled Scaevola's positive reply with the standards of classical Roman law concerning interest-bearing deposits. However, here it seems not to have been the case, since the author of the letter writes as if he knew that his correspondent (i.e. the depositor, Paccius Rogatianus) expected him to employ the money is such a way so that it would yield interest. Thus, explaining Scaevola's reply as if it concerned a penalty interest does not account for the terminology of the letter itself. The letter does not represent juristic authority; rather, it preserves terminology used between business associates or (perhaps) friends. The wording of the letter, as we have it,[157] clearly indicates that the money was given (deposited?) with the intention that, if possible, it would be employed to raise interest-profits.

[156] Ulp. *Dig*. 17.1.10.3 (31 *ad ed*.): '*quia bonae fidei hoc congruit, ne de alieno lucrum sentiat'*.
[157] The original letter may have been abbreviated, but no reason to assume its wording was significantly interpolated.

In view of all of the sources examined so far, it is not unlikely that this excerpt[158] gives evidence for *de facto* interest-bearing deposit. Paccius Rogatianus had indeed entrusted money with Quintus Caecilius Candidus. This was given as a deposit with the understanding that it would not be left idle (*ne vacua sint*), and, if possible, would yield interest. That it was not always possible to find borrowers is attested elsewhere, in an excerpt from Paul, where the distinguished jurist states that tutors that could not lend out their pupils' money since *quod non erat cui crederet*, were freed from the obligation to do so.[159] The obligation of tutors to invest their wards' money—negligence of which carried with it a penalising interest payment to compensate the ward[160]—may be seen as prompted by the appreciation that money should not be left idle. Even when a tutor advanced his own money on the property of a ward, this sum could be recovered together with interest 'for his money ought not to be unprofitable' (*ei sterilis esse pecunia*).[161] Seen within this wider context, the hypothesis advanced here—namely, that the right of depositors to gain interest on their deposits became acceptable, and was considered reasonable, perhaps even justified—appears even more convincing.

What impact, if any, did these agendas in common practice have on Roman law? The Hellenistic practice, which used *παρα(κατα)θήκη* contracts as a legal framework to enable the operation of deposit-banking,[162] was first accommodated in Rome by applying

[158] Scaev. *Dig*. 16.3.28 (1 *respon.*).
[159] Paul. *Dig*. 26.7.12.4 (38 *ad ed*.).
[160] Gai. *Dig*. 17.1.2.6 (2 *cott*.); Ulp. *Dig*. 26.7.7.3; 6-7 (35 *ad ed*.); Paul. *Dig*. 26.7.49 (2 *sent*.).
[161] Ulp. *Dig*. 27.4.3.4 (36 *ad ed*.).
[162] On the importance of deposits for the operation of banks, see Geiger (1962) 44-54; Bogaert (1968) 331-51, who stresses that 'Les dépôts sont essentiels pour la banque. Sans dépôts, un commence bancaire n'est pas possible' (p. 331); Klami (1986); Bürge (1987); Zimmermann (1996) 217; but see, Tenger

to it the regulations of *mutuum*.[163] Treating such an agreement as *mutuum* was in accord with Roman law and probably suited bankers, whose motivation for accepting money was business-oriented rather than one based on friendship or favour.[164] However, while *mutuum* was advanced primarily to benefit the receiver, deposits—whether or not through banks, and whether or not interest was involved—were advanced primarily to benefit the giver.[165] It appears that a mismatch based on motivation is embedded in the choice to treat this type of agreement as *mutuum*.

With the growing acceptability of *de facto* interest-bearing deposits, the *actio depositi* had increasingly offered a more suitable alternative. Although Roman jurists were reluctant to consider interest-bearing bank deposits as "true" deposits, nevertheless, they never prohibited the practice, which presumably had become a widespread phenomenon,[166] with their verdicts aimed at the extreme event of insolvency.[167] We have already seen Paul's reply in the face of an interest-bearing *παρα(κατα)θήκη*, which allowed the use of the *actio depositi* for recovering the principal,[168] though probably not for the collecting interest, which was contracted in an additional agreement. Similar perplexity arises also from a rescript of the emperor Gordian (238-244), promulgated

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(1993) 66, who argues that in most *παρα(κατα)θήκη* contracts from the first three centuries CE private individuals, rather than bankers, are the ones acting as depositaries.

[163] Ulp. *Dig*. 12.1.9.9 (26 *ad ed*.); 12.1.10 (2 *ad ed*.); Paul. *Coll*. X.7.9 (2 *Sent*.): '*Si pecuniam deposuero eaque uti tibi permisero, mutua magis videtur quam deposita, ac per hoc periculo tuo erit'*; to be compared with Paul. *Dig*. 16.3.29.1 (2 *sent*.); on which, see Schulz (1949) 258-9. Also, see Schulz (1949) 255-6; Klami (1969) 227-9; Maschi (1973) 383-5; Litewski (1974) 216-23; (1975) 280-7; Vigneron (1984) 321-2; Bürge (1987) 548-9. On the reluctance of Roman jurists to incorporate Hellenistic legal institutions, see Simon (1965); Kaser (1971) 178-9; Vigneron (1984).

[164] Bürge (1987); Bogaert (1968) 307-63.

[165] This distinction has been used to explain the emergence of the so-called *depositum irregulare*; Gordon (1982) 368-9; Zimmermann (1996) 216-7.

[166] As believed by Rathbone and Temin (2008).

[167] Ulp. *Dig*. 16.3.7.2 (30 *ad ed*.); 42.5.24.2 (63 *ad ed*.); Papin. *Dig*. 16.3.8 (9 *quaest*.).

[168] Paul. *Dig*. 16.3.26.1 (4 *respon*.).

only several years after the period here under investigation,[169] which assumed that using a deposit involved an obligation to pay interest to the depositor, though the use of the *actio depositi* was allowed for recovering only the principal and not the interest. Perhaps under Justinian the *actio depositi* was extended to be made available also for compensating depositors for rendering the right to use money they had deposited.[170]

As for the period here under investigation, from the second century onwards, time and again the question was raised whether interest on deposits could legally be imposed. Had interest-bearing deposits not been a widespread phenomenon, this issue would not have become a legal dilemma. Though this possibility repeatedly came up, it was continuously rejected by jurists. Roman jurists were reluctant to alter fundamental legal definitions; hence, refused to allow using the *actio depositi* for collecting interest. Yet, their scholastic, sometimes even confused, answers should not be attributed to interpolation alone. Rather, they preserve traces of a real confrontation between practice and law. As often happens, law adjusts slower than persons to a new reality. Individuals spot opportunities and alter their behaviour accordingly. By doing so they may create the conditions for a conceptual shift.[171] They use available legal formats for their own purposes, sometimes bestowing on them new meaning, which more traditional legal interpretation may find hard to reconcile. In the case of interest-bearing deposits, it is argued here that after long endured tension between law and custom, actual practice

[169] *CJ* 4.34.4 (Gord., 238-244). Also, see Michel (1962) 93; Klami (1969) 112-7; Klami (1986) 93.

[170] Kaser (1971) 536; Zimmermann (1996) 218. Previously scholars argued that Justinian had legally established the so-called *depositum irregulare*; Maschi (1973) 381-407; Litewski (1974) 215: 'Dans le droit de Justinien, l'existence du dépôt irrégulier est clairement confirmée par quelques textes'; (1975) 311: 'Sous Justinien, le dépôt irrégulier était admis sans aucune restriction'. However, see Gordon (1982) 363-4; Klami (1986); Bürge (1987) 536-7,554; for the view that no coherent doctrine of *depositum irregulare* had ever existed at any period of Roman law.

[171] Rathbone and Temin (2008) 416, who talk of 'conceptual adjustments to banking practices' manifested by the so-called *depositum irregulare*.

prevailed and legal formalities were eased to accommodate, at least partially, the practice of collecting interest on deposits.

It is doubtful whether a practice common in Egypt alone would have had such repeated and influential presence in Roman law. It is more likely that interest was habitually collected on deposits also elsewhere in the empire—as may also be inferred from developments in the Jewish 'Laws of Deposits'—, repeatedly confronting Roman courts with this practice. A wider appreciation of the right of individuals to profit from their possessions, especially where others were given an opportunity to benefit from it as well; the advantages which *de facto* interest-bearing deposits offered to both parties, depositors/lenders and depositaries/borrowers; and the approach according to which money should not be left idle; all contributed to the attractiveness and the growing acceptability of *de facto* interest-bearing deposits. Following Klami's observations, made almost three decades ago,[172] I am somewhat reluctant to consider this purely in terms of Hellenistic influence on Roman law.[173] Rather than thinking in dichotomous terms, contrasting the Greek *παρα(κατα)θήκη* with the Roman *depositum* (and the alleged *depositum irregulare*), the approach advanced here advocates an integration of the two corpora of evidence, the legal and the documentary.[174] Instead of considering the various contractual formats for interest-bearing deposits as belonging to parallel legal systems (Roman, Greek, Jewish), discussions should be incorporated within same the analysis; thereby allowing a better appreciation of the institutional environment within which individuals had managed their economic operations.

[172] Klami (1986).
[173] Which is a common view in the scholarship; e.g. Vigneron (1984); Zimmermann (1996) 217-8.
[174] Simon (1965); Klami (1986); who both also follow such an approach.

Perhaps it is impossible to pin down the origins of the practice which allowed *de facto* interest-bearing deposits. At no time during the period here under investigation was it legally accepted by Roman jurists so that permission would be granted to use the *actio depositi* for retrieving interest. Be that as it may, from the first century onwards this practice became commoner, certainly in Egypt, and presumably also elsewhere. The stimuli behind this shift should not be attributed to an official modification of law (a top-down alteration), but rather to a tendency of individuals to shift their use from one legal institution to others (a bottom-up process); thereby casting new meaning into existing legal formats, with the effect of creating a new institutional, therefore also economic, environment.

The acceptability of *de facto* interest-bearing deposits had probably accelerated during the second century. For how else are we to explain the inclination of Roman jurists towards a relaxation of legal formalities, if not by a change in reality, which persistently urged them to consider the *actio depositi* in cases where interest was raised on deposits? By the early third century, *de facto* interest-bearing deposits became common enough so that the practice was considered not only reasonable, but also right. Surely there were still deposits entrusted solely for the sake of safekeeping (as inferred also from the Jewish legal distinction between *Shomer Sakhar* and *Shomer Hinam*), but there were also those given for investment purposes, and the latter's share, so it seems, was increasingly growing.[175] Since money was now being deposited not merely for the sake of safekeeping, but also as a channel of investment, this meant that it was perceived not only as a store of wealth, but also as a financial instrument. Interest-bearing deposits

[175] As argued also by Rathbone and Temin (2008).

had widened the opportunities available to wealthier Romans; they allowed for a possible increase in the amount of money in circulation; and, enabled one to profit from the participation of her or his depositary in economic operations, in which the true owner of the money was never directly involved, and perhaps not even aware of. In doing so, interest-bearing deposits had the potential of accommodating a leverage mechanism, which may have allowed for an increase in the supply of money; with the result of transforming money into a much more omnipresent phenomenon.

Part IV: Conclusion

Chapter 9: The Complexity of Roman Money

9.1. Introduction

Money is a symbol which represents value. As such, it is an abstract notion based on social convention. It is a formation of thought with which individuals comprehend their social reality, construct their choices, and form their actions. Yet, more often than not money has physical manifestations, such as certain commodities, tokens, or records of obligation. Thus, money displays a Janus-faced oddity: it is both amorphous (i.e. abstract) and concrete (i.e. tangible); the two characteristics inseparably intertwined, making money difficult to define, scrutinise, and model.[1] These general observations are as true for modern times as they are for antiquity, and play a part in many of the discussions regarding money, as well as explain some of the ambiguities that arise from it.

The present study looked at the institutional framework within which money operated in the Roman empire in the second and early-third centuries CE. It follows the current trend in economic history to adopt approaches advanced by New Institutional Economics (NIE),[2] while generally accepting Keynesian claims for money's endogenous nature.[3] As stated at the beginning of this study, its initial starting point was rather traditional: viewing models, and especially their visual representations, as aimed at providing clear (hence, often simplified) explanations of the complexity of the real world.[4] However, as my search for possible models progressed, I came to realise that

[1] Similarly, Seaford (2004) 1.
[2] E.g. Scheidel, Morris and Saller (2007a).
[3] On endogenous money, see Moore (1988); (2006); Wray (1990); Rochon (2003); Fontana (2004); Dow (2006); Lavoie (2006); Gnos and Rochon (2008).
[4] Snowdon and Vane (2005) 4.

traditional economic visualisations—based on relatively straightforward diagrams, which tend to oversimplify reality, usually in order to stress certain aspects of it—do not provide a satisfactory format to visually represent the historical evidence. That is, models which only account for price inflation, or metal shortage, or over-taxation, or imbalance between production and consumption, often fail to account for interactions between such phenomena. They do not provide sufficient explanation of what was going on in the Roman economy, because they tend to oversimplify reality, or to focus only on one-dimension of it. Whilst attempting to create some sort of abstract visualisation—i.e. one which is not a projection of a database, but rather offers a conceptual framework—I came across complexity-oriented visualisations. These offer a wider spectrum of possibilities to represent multi-linkages, repetition, emergence, and loop and quasi-loop formations; which, if later are translated back into a narrative format, can improve our understanding of the historical evidence. Thus, it is via graphical representation that I first appreciated the advantages of analysing economic phenomena as complex structures.

It is with these advantages in mind that I wish to turn to visualisation in order to advance a complexity-oriented approach for graphically modelling the historical example of Roman money. Such an approach stresses the ability of money to allow new patterns of activity to be created by individuals who self-adjust their use of it, altering and widening its application in accord with their own needs, and the continuously evolving system in which they operate; thereby allowing the system to become more than the sum of its components. Since the visual product of such a modelling is somewhat counterintuitive to mainstream economic linear model-building, in what follows I give

some clarifications and discuss several examples of visual complexity, in order to then turn to analysing Roman money with the help of complexity-oriented visualisations.

9.2. Visualisation

Visualisation is the process of forming a mental picture of something not actually present to the sight.[5] Yet, it is not only an internal construct of the mind; visualisation refers also to the graphical representation of concepts or data. As such it becomes an external artefact which functions as a cognitive tool. By producing a visual image—that condenses massive amounts of data, or communicates a message, whether abstract or concrete—visualisation supports the comprehension of complex ideas, hence may also assists in forming hypotheses.[6]

One of the oldest formats for displaying information graphically is tree-structured models (e.g. Fig. 1).[7] Tree models are very helpful in displaying hierarchical and chronological connections, but have little, if any, flexibility for accommodating recurrence, duplication, repetition, reciprocity, or any other circulatory-natured phenomenon. In such representations the explanatory narrative is generally that of 'one thing which leads to another', i.e. a kind of descriptive mechanical causality,[8] with very little room for circular occurrences.[9] Similar observations can be made regarding many of the standard graphs used today: bar charts, pie charts, scatter plots, line charts, etc.; all derive from nineteenth-century techniques for graphic representation, which fit the scientific

[5] *OED*.
[6] Ware (2013) 2-4.
[7] Lima (2011) 21-41, who offers a short history of Tree-Models.
[8] Van der Leeuw and McGlade (1997b) 13.
[9] For criticism on Tree-Models, see Lima (2011) 43-69.

paradigm of reduction,[10] i.e. 'breaking nature down into the simplest possible elements and defining rules on how these elements interact'.[11]

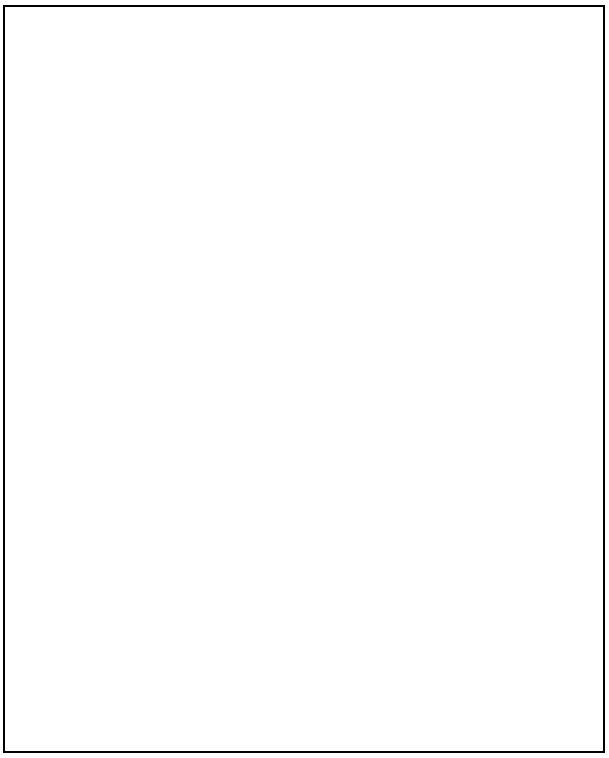


Fig. 1.[12] *Arbor naturalis et logicalis*,
('Tree of nature and logic'),
in Ramon Llull's *Ars Magna*
(=*Ars Generalis Ultima*) (1305)

By contrast, much of the new network- and complexity-oriented methods of visualisation, which became ever more frequent in the last two decades, possess better capacity for displaying circular or overlapping formations that characterise complex phenomena. These methods tend to produce complex graphical designs, which nestle on

[10] On nineteenth-century scientific paradigm of thought as one which concerns 'simple problems', see Weaver (1948).
[11] Manovich (2011) 11-13, citation taken from p. 13.
[12] This diagram, appearing in a sixteenth-century publication of *Logica nova* (1512), is comprised of the tree of Porphyry (centre), with ten leaves representing types of questions (right), and ten representing keys to principles for generating answers (left). On the work of the thirteen-century philosopher Ramon Llull, see Bonner (2007) esp. 27-31, on Llull's use of visualisations and graphs.

network theory; they are often based on computerisation, statistics, and huge amounts of data; and can depict an astonishing range of interconnectedness expressed by an intense arrangement of nodes and links, which produce compound, often condensed, visual formations.[13] This new type of visualisation may imitate molecular constructions, either centralised or circular;[14] may depict flows, visually assimilating either waves[15] or arcs[16]; or reproduce visual patterns which resemble those apparent in the natural, i.e. biological, world, such as cell and bacteria formations.[17]

When it comes to visualisation of complexity-oriented economic analyses, in particular those which concern money and financial markets, as far as I am aware, econophysics represents the forefront of research.[18] Econophysics is a newly emerging field,[19] which applies mathematical methods used in physics, and especially statistical physics, for the analysis of socioeconomic complex systems.[20] It aims at describing 'socioeconomic systems as complex systems suggesting the unavoidable result of bringing together numerous components in a non-simple manner';[21] while avoiding *a priori* assumptions concerning agents such as are usually used in mainstream economics, namely, rationality and personal characteristics such as utility function and risk aversion.[22] It bases its methodology on empirical verification,[23] with the main objective

[13] Lima (2011) 97, 158, who offers a sort of a manual for possible schemata.
[14] *Idem* 98-157, who gives examples for network-based visualisations.
[15] *Idem* 188-91.
[16] *Idem* 160-3.
[17] *Idem* 164-6; Davies (2005) 152-3, who considers also cellular structures for analysing ancient economies.
[18] It is often concerned with financial markets; but, see Casti (2002), for criticism.
[19] Rosser (2008); Jovanovic and Schinckus (2013).
[20] Schinckus (2013); Jovanovic and Schinckus (2013).
[21] Schinckus (2013) 3655.
[22] Rosser (2008); Schinckus (2013) 3655.
[23] Schinckus (2013); Jovanovic and Schinckus (2013) section III.2, pp. 19-20 in the online version.

of describing past phenomena through models based on historical analyses of empirical data, and speculating about probability of future events.[24]

Although econophysics rests on mathematics which is beyond the scope of the present study (and the existing capacity of its author); and although the volume of detailed data which econophysic studies rely on can only be dreamt of by ancient historians; still the visual product of econophysic modelling may serve as a helpful methodological tool for the purpose of the current discussion.[25] I wish to turn attention to one specific research technique, which offers a tool for filtering information in complex systems, and applies it in an analysis of the one-hundred most capitalised stocks traded in the U.S. equity markets during the years 1995-1998.[26] Again, it is neither the mathematics, nor the database which should concern us here. Rather, I wish to focus on the graphical representation of the model (Fig. 2); what its authors call the "Planar Maximally Filtered Graph", 'obtained from the fully connected graph associated with the correlation coefficient matrix of the data'[27]:

[24] With the stationary hypothesis according to which future data will be a statistical reflection of past data; Schinckus (2013) 3656, 3660, 3661 n. 26.
[25] Casti (2002), with criticism.
[26] Tumminello, Aste, Di Matteo, *et. al*. (2005).
[27] *Idem* 10423.

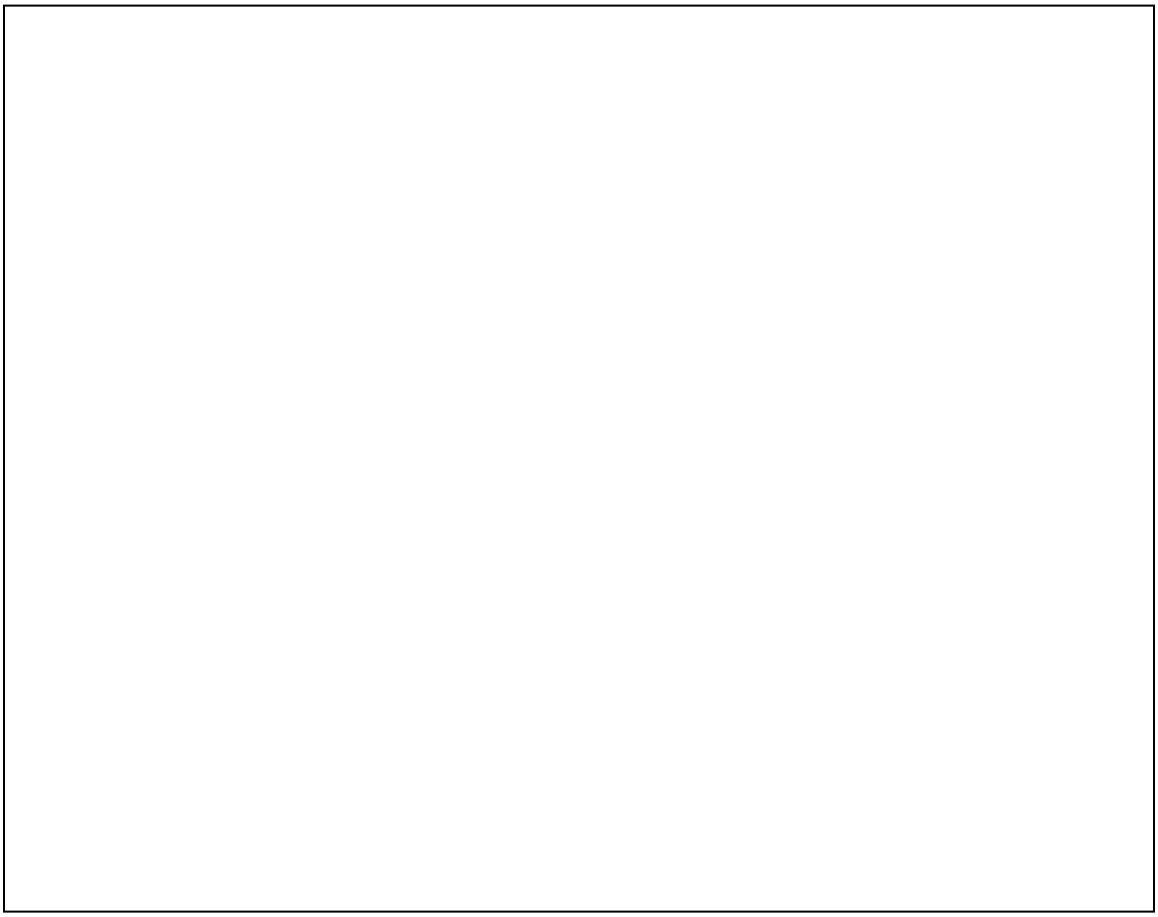


Fig. 2.[28]

The graph displays cross-correlation computed by using daily returns of stocks, which are indicated with their Ticker Symbol, i.e. an abbreviation used to identify publicly traded stocks. The correlation provides a similarity measure among the behavior of different elements in the system,[29] although the link lengths do not reflect the value of the similarity measure between vertices.[30] This computation of cross-correlation is displayed on a topological planar, i.e. one which can be drawn on a plane without edge-

[28] *Idem* 10423, Fig. 2.
[29] *Idem* 10421.
[30] *Idem* 10423.

crossings. Such a type of visualisation has been labelled "Organic Rhizome",[31] relying on the philosophical concept of a rhizome as developed by the French philosophers Gilles Deleuze and Félix Guattari.[32] According to Deleuze and Guattari:

> '…the rhizome connects any point to any other point… It has neither beginning nor end, but always a middle (*milieu*) from which it grows and which it overspills. …the rhizome is an acentered, nonhierarchical, nonsignifying system without a General and without an organizing memory or central automaton, defined solely by a circulation of states.'[33]

Though the authors of the econophysic study cited above do not mention Deleuze's and Guattari's notion of a rhizome, the visualisation which they advance displays precisely such a formation. The same can be said also with regard to other complexity-oriented visualisations. For example, let us consider the visual product of a recent research on obesity funded by the UK government, which offers a qualitative study for mapping the complex systemic structure of obesity (Figs. 3).[34] Unlike the stocks-equity-market econophysic model, which creates a graphic projection of detailed data (Fig. 2), the obesity model is less database-oriented, in the sense that it is not statistically driven. Its authors chose the visualised format of a causal loop diagram,[35] which is a model based on system dynamics methodology developed for strategic decision making.[36] Causal loop diagrams are not predictive models; their essential contribution is

[31] Lima (2011) 158, 192-5.
[32] Deleuze and Guattari (1987); cited in Lima (2011) 44.
[33] Deleuze and Guattari (1987) 21; and they continue: 'Unlike a structure, which is defined by a set of points and positions, with binary relations between the points and biunivocal relationships between the positions, the rhizome is made only of lines: lines of segmentarity and stratification as its dimensions, and the line of flight or deterritorialization as the maximum dimension after which the multiplicity undergoes metamorphosis, changes in nature'.
[34] Vandenbroeck, Goossens, and Clemens (2007); Lima (2011) 194.
[35] Lima (2011) 158, 194, who categorises this model as 'organic rhizome'.
[36] Vennix (1996) 3-7, on the assumptions of system dynamics methodology; pp. 52-60, on casual loop models.

in summarising and communicating trends, relationships and constraints that influence the behaviour of complex systems, by displaying interdependencies within a set of relevant, causally linked variables, which can be scaled at various levels of aggregation (e.g. individual, group, society).[37] Again, what is of interest to the present discussion is not the research on obesity *per se*, but rather its graphical product:

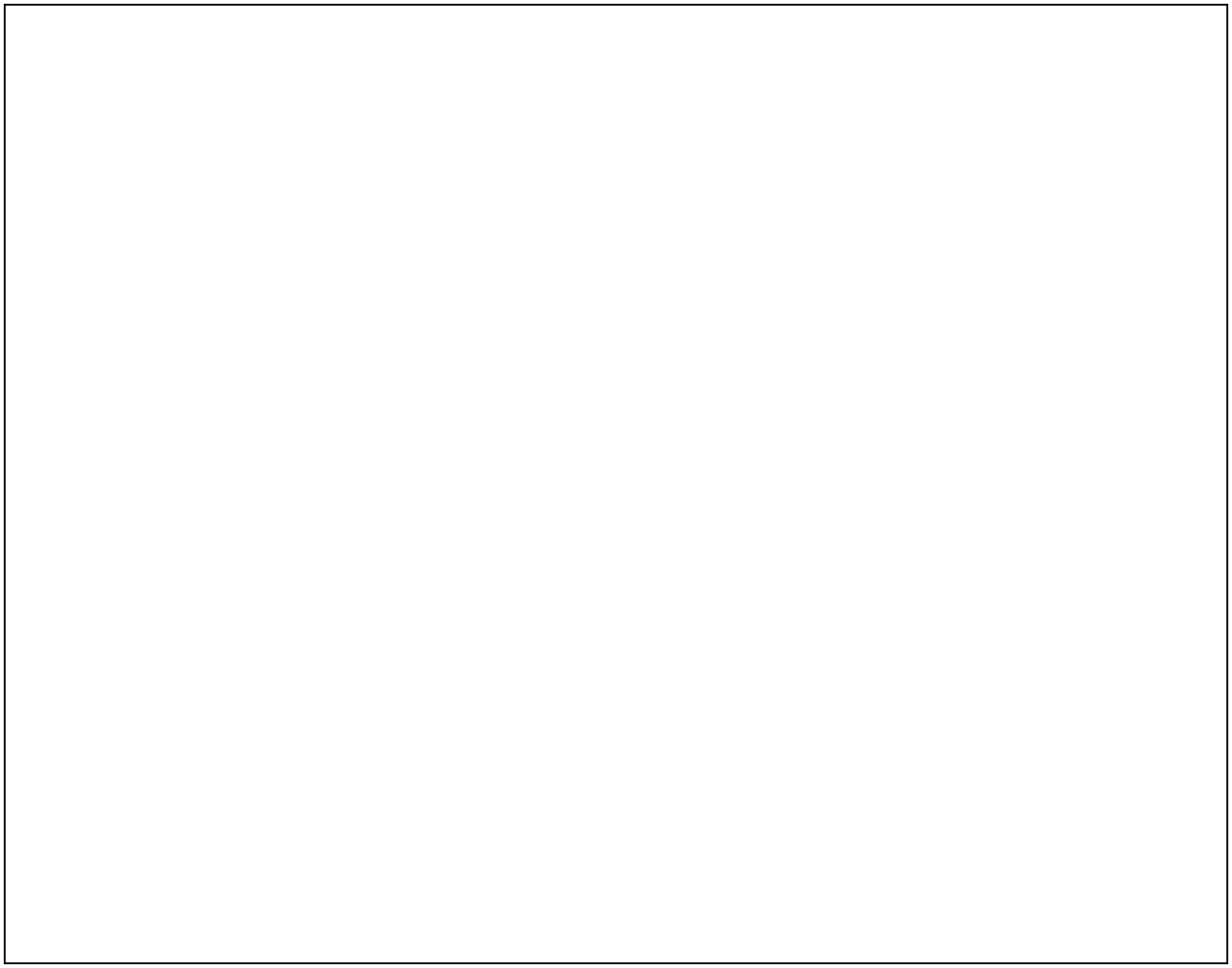


Fig. 3a.[38]

[37] Vandenbroeck, Goossens, and Clemens (2007) 3-6.
[38] *Idem* 76, Fig. 12.

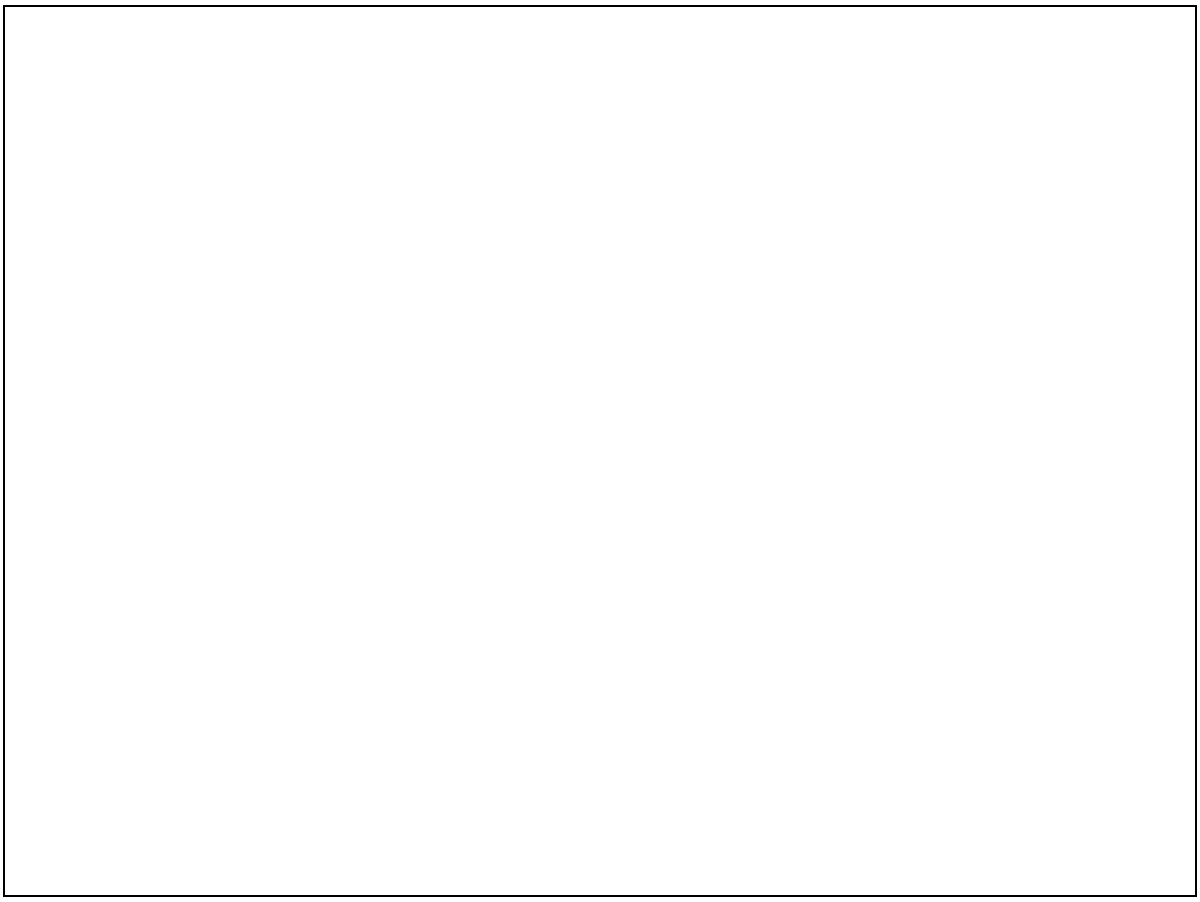


Fig. 3b.[39]

In this example (Fig. 3a) nine groups of factors have been identified as contributing to the obesity epidemic.[40] These are organised according to Thematic Clusters displayed via a causal loop diagram (Fig. 3b). In causal loop models, the system's elements (i.e. variables) are represented by boxes, and the causal relationships between variables are represented by arrows. Any two variables may be connected by

[39] Available at http://www.bis.gov.uk/assets/foresight/docs/obesity/11.pdf .
[40] With an interactive map which allows separately to view each of these nine groups produced by shiftN: http://www.shiftn.com/obesity/Full-Map.html.

either linear or circular causalities. In linear causalities the variable at the tail of the arrow affects the variable at the point, in either a positive manner, i.e. both variables change in the same direction (displayed in the diagram with arrowed lines); or, a negative one, i.e. variables change in opposite directions (displayed with lines that end with a square); and causalities may differ also in strength and the time delay to which they are subject. Circular causalities (from A to B to A) produce "feedback-loops" and are an important feature of causal loop modelling since they help to explain the dynamic behaviour of the system. Lastly, the essential aim of causal loop models is explanatory rather than predictive; i.e. to gain insight concerning the underlying structure of a complex situation, with the system map showing how variables interrelate.[41] Thus, for example, we may consider linkages between psychological elements and Food Environment (Fig. 3c), or the role of Education in influencing obesity (Fig. 3d); while these visualisations can later be verbalised (as detailed in the footnotes for each Figure).

[41] Vandenbroeck, Goossens, and Clemens (2007) 4-6.

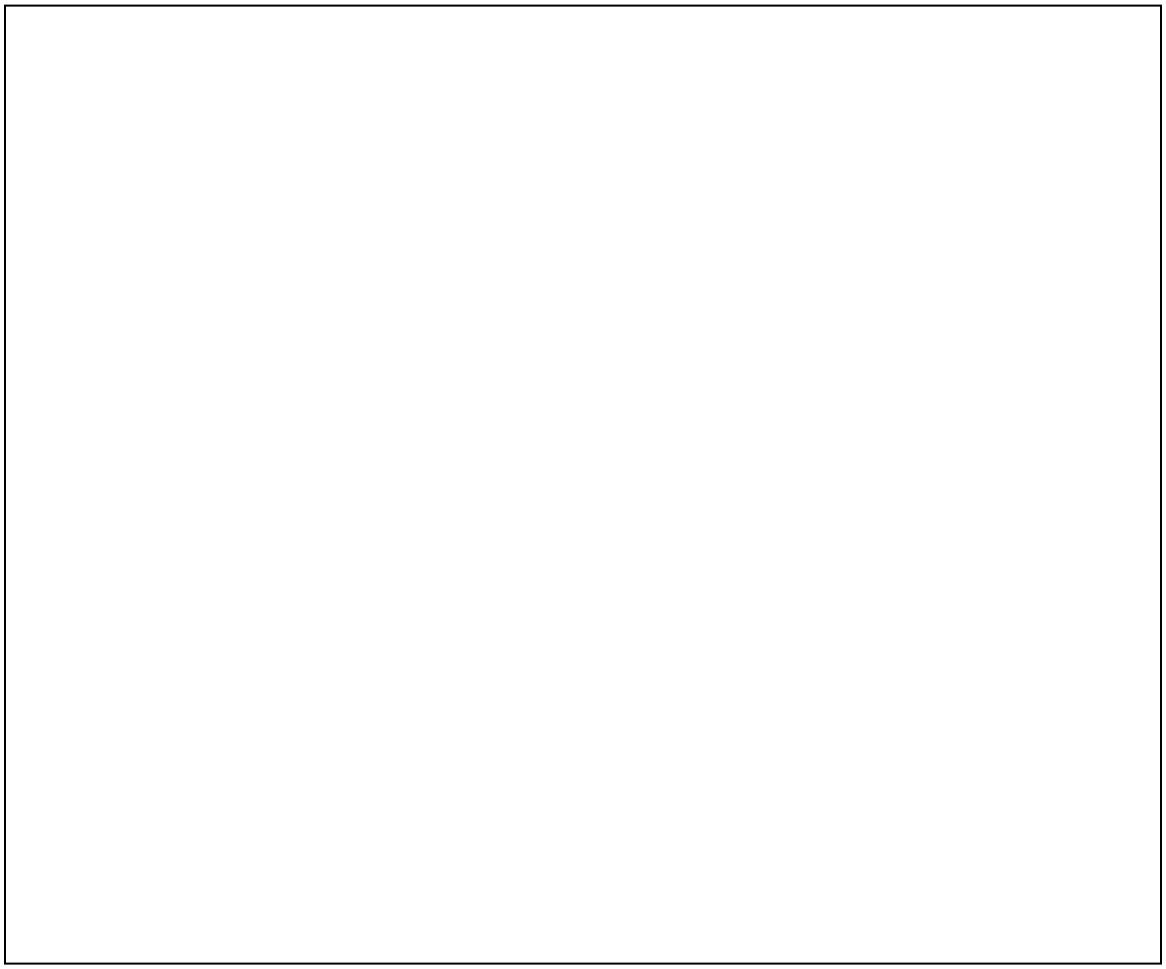


Fig. 3c.[42]

[42] Vandenbroeck, Goossens, and Clemens (2007) 29: ‘Map 22 – Leverage point: Education – shows how the ‘education’ variable exerts its influence via several mechanisms, thereby activating most of the critical parts of the map: (*) Via the media complex, it links to psychological/cognitive variables 'self-esteem' and 'food literacy', which connect directly to the core engine via 'psychological ambivalence' and 'conscious control of accumulation'. (*) Via 'demand for health', it activates the food production cluster and so onwards to the physiology cluster (over 'nutritional quality of food'). Ultimately, this hits the core engine at 'strength of lock-in' and 'level of available energy'. (*) Via 'social valuation of activity', it has a fairly direct impact on the level of physical activity’.

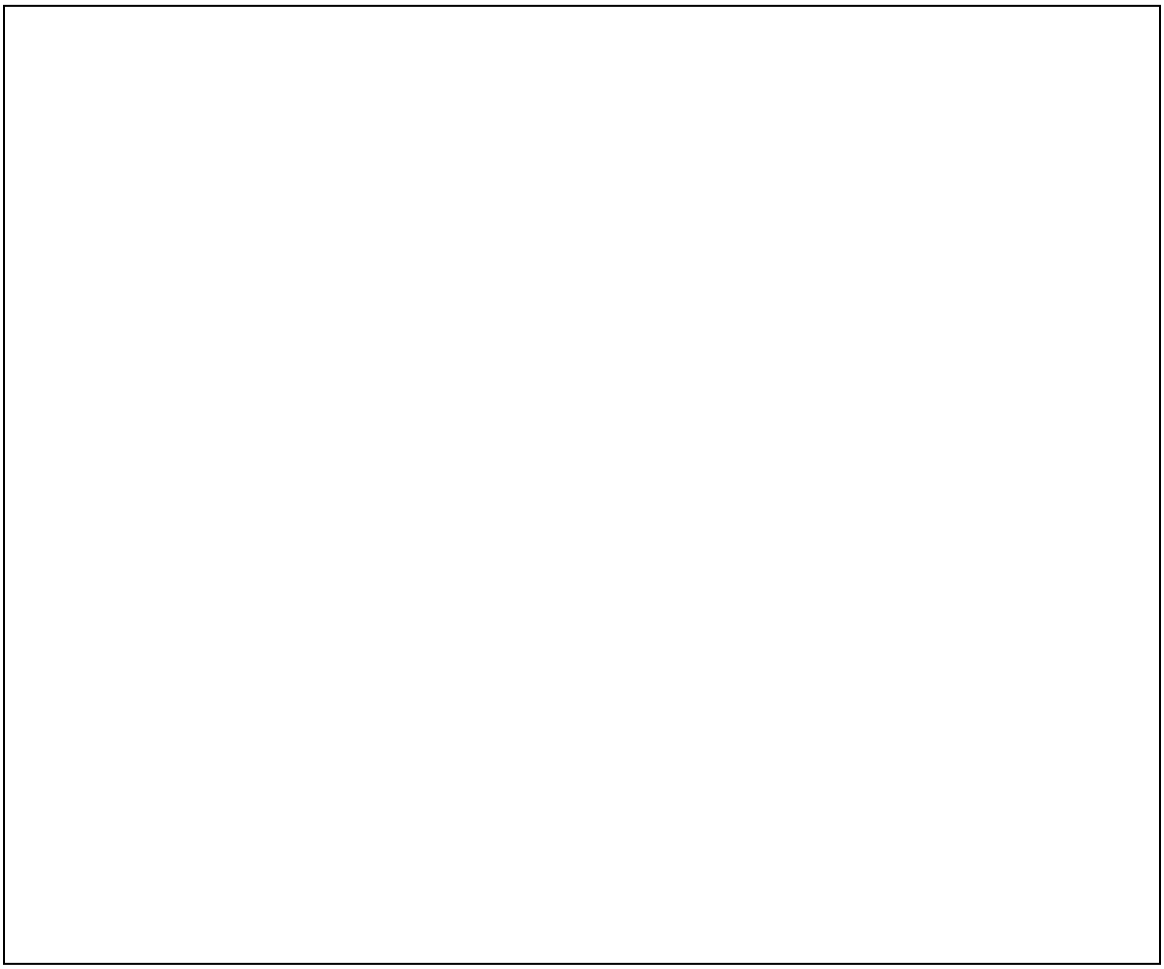


Fig. 3d.[43]

[43] *Idem* 25: 'Map 15 – Full generic map: linkages between the psychology and food environment areas – Linkages between these two areas are predictably dense, with 14 arrows going from psychology to the food environment and nine arrows in the other direction: (*) Key tail variables in the psychology area are education, media availability, socio-cultural valuation of food, perceived lack of time, stress and food literacy. They link into demand-side factors such as demand for health and the social pressure to consume. But supply-side variables are also triggered: the food industry's business model is grafted onto what people want. (*) Tail variables in the food environment area are dispersed, with one arrow only leaving each of the variables. They include food exposure, food abundance, social pressure to consume, and industry's desire to maximise volume. They drive three variables in the psychology area: exposure to food advertising, perceived lack of time, and psychological ambivalence'.

Keeping in mind these two examples—that of the stocks-equity-market econophysic model and that of the obesity causal loop model—, let us turn to ancient history. Within the field of ancient economic history scholars have tended to prefer verbal descriptions rather than graphical ones.[44] Yet, visualisation is an inherent, though at times implicit, component of their analyses. Historians often map trade-routes, envision 'economic space',[45] or portray an image such as 'a cellular economy'[46];[47] all of which are metaphors based on an 'intuition that vision and artful images are an alternate and seemingly direct route to *insight*'.[48] A survey of graphic modelling of Greek and Roman economies was offered almost a decade ago by John K. Davies, who pointed out that visualisations of ancient economies tend to concentrate on the sort(s) of *space* which economic interactions occupy.[49] Thus, models are often concerned with *boundaries*, both physical and conceptual, and are frequently aimed at tracing *flows* within a spatial structure, either a geographic or a mental one; flows which usually signify the exchange of goods and services.

Keith Hopkins' monumental 'Taxes and Trade' model for taxation and coinage flows in the Roman empire remains one of the most insightful and influential examples of modelling of this sort.[50] A simplified diagram of three circles, one within the other, symbolises geographic space divided into regions, which derive their significance from the political sphere: "centre", "middle zone", and "periphery" (or "frontier") (Fig. 4).

[44] Obviously. History is a verbal profession, which is why historians need to have visualisations that can be turned back into verbal format.
[45] E.g. Finley (1985) 177-8, who speaks of a 'large unified economic space'.
[46] Duncan-Jones (1990) 44. Also, Hopkins (1980) 104, who mentions 'cellular autarky of individual peasant farmers'; Davies (2005) 152-3, who offers also cellular-structured visualisation for ancient economies.
[47] Davies (2005) 152, who cites further examples.
[48] Ware (2013) xvii.
[49] Davies (2005) 130-41, who offers a survey of the relevant literature.
[50] Hopkins (1980).

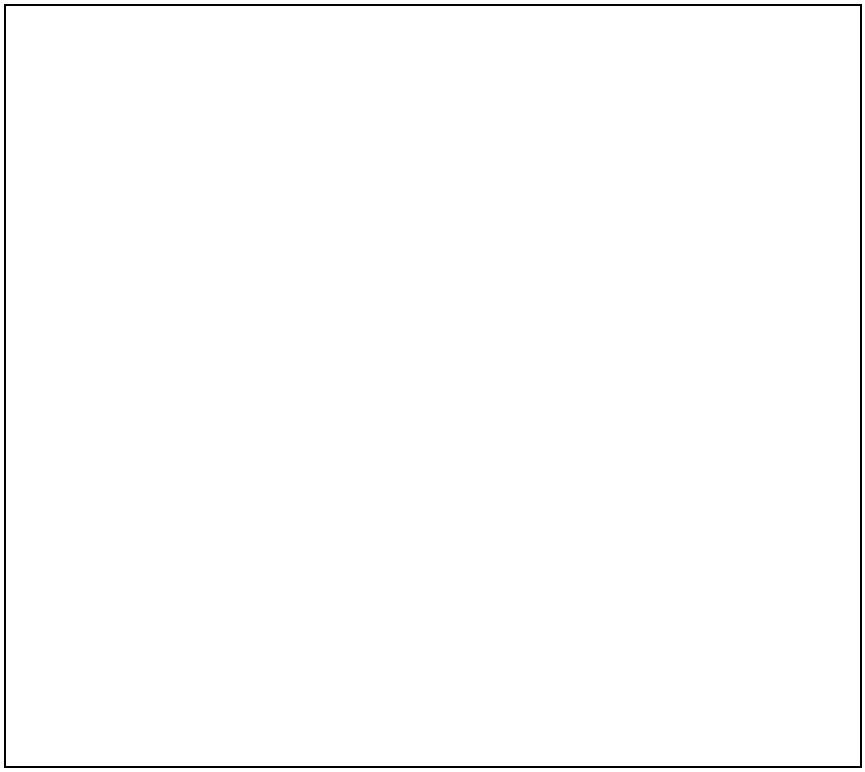


Fig. 4. Taxation flow in the Roman empire, after Hopkins (1980),
as portrayed in Davies (2005) 140, Fig. 6.6

This simplified representation highlights an important generalising understanding concerning the role of the Roman state in generating economic relationship(s) between different regions of the empire, as well as encouraging monetisation. Its influential contribution lies in its powerful simplicity: it manages to display in a nutshell complicated political, economic, and social dynamics, that were going on in the Roman empire for decades. However, as pointed out by Davies, the simplified diagram also has its drawbacks, as it leaves an important part of the model visually unexpressed, hence unexplained; namely, the *process* by which money "trickles down" from the frontiers

back to the "middle zone",[51] as well as the economic and monetary relations between and within provinces.[52] So, how shall we model a *process*?

Davies himself innovatively adopts a dynamic, complexity-oriented, approach for modelling ancient economies, and in particular that of a large and socially-complex Greek polis (*Kleinstaat*).[53] Non-linear dynamics has been advanced as a modelling approach in archaeology since the late 1990s,[54] however, hardly ever applied as a prime methodological tool by ancient economic historians. Davies promotes complex visualisation for 'modelling the salient characteristics of the economic behaviour of antiquity when we have no quantitative data worth the name'.[55] He chooses to portray a 'processual or topological space',[56] rather than a geographical one, trying to trace *flows*, including nonphysical ones, and the *structure* within which they occurred.[57] His first attempt at such a visualisation was published in 1998 with regard to classical Athens (Fig. 5),[58] and in 2005 was elaborated and expanded to include other formations of ancient Greek polities (Fig. 6).[59]

[51] What Davies (2005) 139, calls 'the "return" (real or symbolic, full or inadequate) from the centre and periphery to the middle zone'.
[52] As stressed by Andreau (1999) 135.
[53] Davies (1998); (2005).
[54] Van der Leeuw and McGlade (1997a).
[55] Davies (2005) 155.
[56] *Idem* 142.
[57] *Idem* 140-2.
[58] Davies (1998).
[59] Davies (2005).

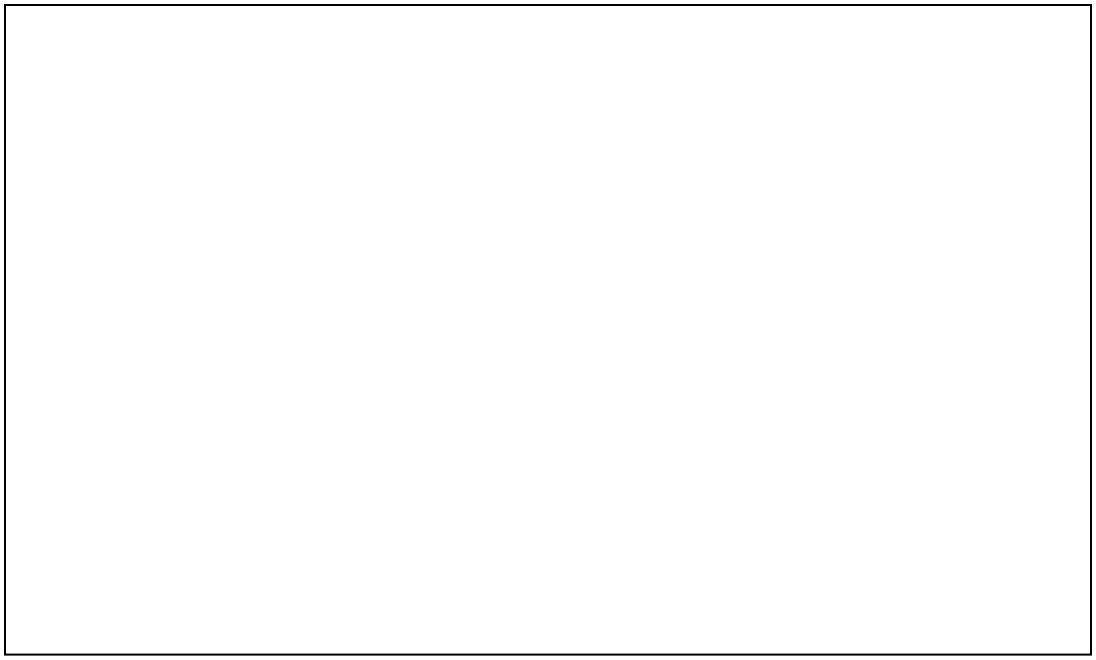


Fig. 5. Flow chart of resource movement: Interactions with the public economy, after Davies (1998) 245, Fig. 11.3, appears in Davies (2005) 145, Fig. 6.10



Fig. 6. Flow chart of resource movement: Modified to incorporate bandwidths, motors, gates, and reservoirs, appears in Davies (2005) 150, Fig. 6.14

The visual product of Davies' analysis is intense diagrams composed of multi-directional connections and counter-linkages, in which conceptual formats are represented by four major schemata: 1) *bandwidth*, which represent the relative sizes of flows; 2) *motors*, which indicated the "driving forces", i.e. the internal incentives that drive resources and exchange; 3) *gates*, which denote impediments to flows and exchange of resources, goods, and services (e.g. the level of technology, social values, or constrains imposed by the polity); and 4) *reservoirs*, that is "reserves", the accumulation of resources by the polity and in private or cultic contexts.[60] The visual products of Davies' analysis display 'organised complexity', i.e. one which aims at tracing how large numbers of variables are interconnected with and interdependent on one another.[61]

While the visual products of the stocks-equity-market econophysic model (Fig. 2) and the obesity causal loop model (Figs. 3) cited above portray multiple nodes connected by flexible curves, which give an impression of a semi-chaotic pattern, and may trigger an association of multi-tentacle octopi randomly interacting with one another; the mental connotation which Davies' visualisations (Figs. 5 and 6) trigger is one of a complex mechanical apparatus. Yet, the difference is due mainly to a choice of graphics; i.e. it is mostly aesthetic, rather than essential. Where Davies chose to display various factors (i.e. nodes) and the relations between them (i.e. arrows) with different types of graphical schemata (circles, ellipses, and squares, for the former; strait, dotted, and thick lines, for the latter), the former two visualisations (Figs. 2 and 3) rely more heavily on using a variety of colours, rather than schemata. As regards methodology, there is no essential difference; all visualisations (Figs. 2, 3, 5, and 6) use an abstract topological planar to

[60] Davies (2005) 142-52.
[61] On 'organised complexity', see Weaver (1948).

display rhizomatic patterns of complex non-centralised phenomena, where the system's elements interrelate with one another in non-simple manners which allow emergence; with 'emergence' here referring to the capacity of a fundamentally chaotic, or complex, system to produce patterns that are seemingly non-chaotic and predictable in behavior (i.e. although the precise initial conditions that trigger individual patterns within the system cannot be identified, or used to predict the detail of an outcome, the system as a whole does produce some emergent patterns, which include recognisable formations that can be used to predict the overall behaviour of the system).[62]

The two graphical elements—i.e. a multiplicity of colours, and a variety of schemata—can be combined; as, for example, in a visualisation of a network model for Systems Biology of Human Aging offered by John D. Furber (Fig. 7).[63] This representation is both extremely colourful and intensely detailed, whilst nevertheless creating an impression of a mechanical apparatus, probably due to the use of quadrangles and other polygons. Again, regardless of graphical techniques, all of these visualisations display rhizomatic properties, namely, nonlinearity, diversity, decentralisation, and emergence.

[62] Holland (1998); but see Corning (2002).

[63] John D. Furber, *Systems Biology of Human Aging - Network Model Wall Chart* (Rev 29 May 2013), available online: http://www.LegendaryPharma.com/chartbg.html; Lima (2011) online electronic database: http://www.visualcomplexity.com/vc/project_details.cfm?id=521&index=40&domain=Biology

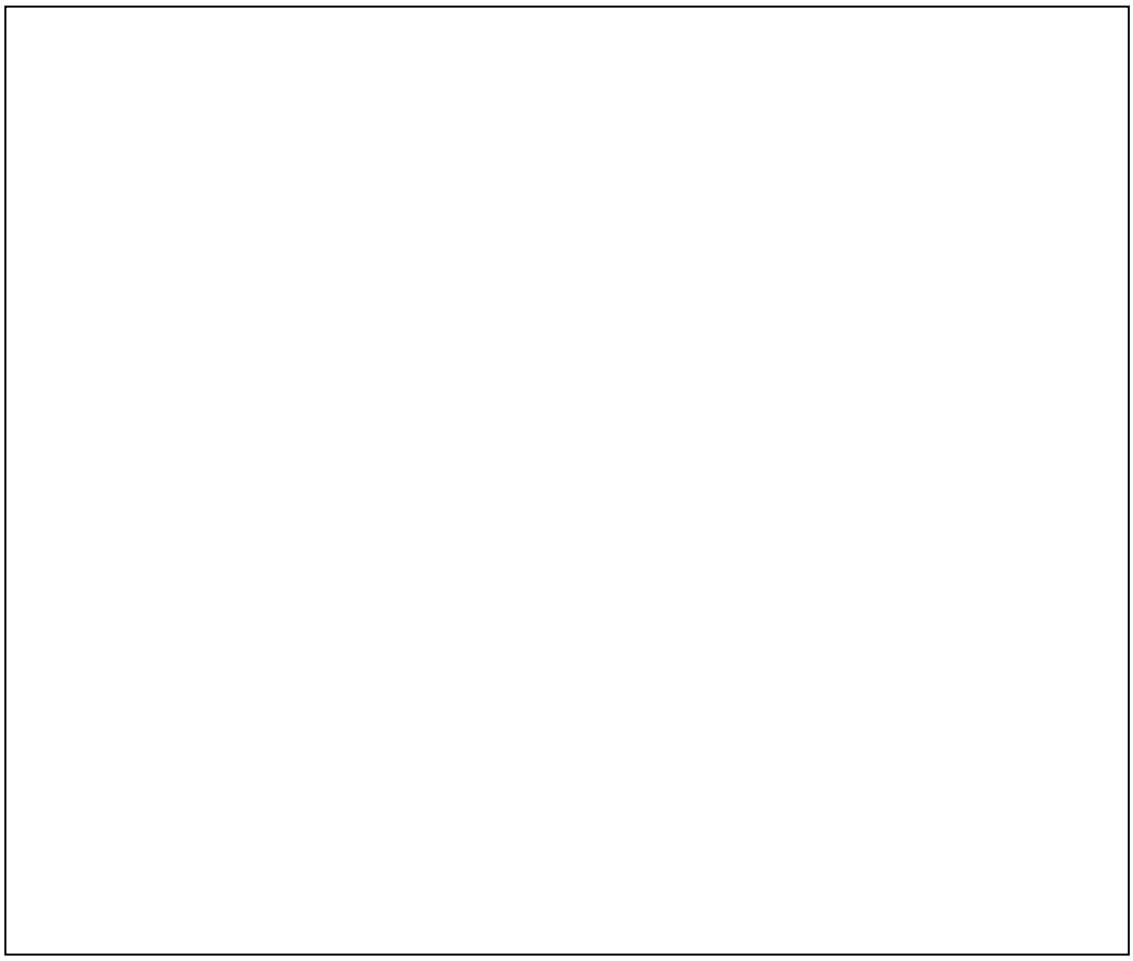


Fig. 7.

9.3. Roman Money and Complexity

Huge amounts of detailed information, which could provide a basis for statistically-driven visualisations of economic phenomena, as the one created by the stocks-equity-market econophysic model (Fig. 2), do not exist for ancient economies in the same way as they do for modern ones. However, complexity-oriented visualisations

of economic phenomena need not rely on huge databases. Though numerical data are perceived as the building blocks of "good" economic models, they are not a requirement of economic modelling. In fact, basic economic models are seldom built on databases,[64] though data at times could be poured into them. Such models are helpful not because they accurately mirror reality, i.e. they are not a graphical projection of detailed information; rather, they are considered helpful because they create conceptual tools with which economic phenomena can be categorised, described, or explained. Once information, in the sense of factual data, is cast into models—created not by the data, but for the data—trends, tendencies, and patterns may appear that help to assess changes. These observations are valid also for complexity-oriented models. As stressed by Davies,[65] intense visualisations, which display organised complexity and portray non-simple relations on an abstract topological planar, provide a helpful tool for qualitative analyses of ancient economic phenomena. Thus, I follow Davies' lead and attempt to offer such a visualisation for analysing the historical example of Roman money.

First, it should be made clear that *complicated* is not necessarily *complex*. The fact that a system is comprised of many variables, or that it displays complications, does not by itself makes it a case of complexity. Rather, 'the principal distinguishing feature of any complex system is that it is fundamentally irreducible – it is more than the sum of its component parts'.[66] It is not enough that the elements of a system be interconnected in a non-simple manner; they need also display a capacity for self-adjustment. In complex systems it is not only the elements comprising a system, but also the system as a whole,

[64] E.g. the supply-demand or LM-IS curves, crossing one another at the point of equilibrium.
[65] Davies (2005).
[66] Van der Leeuw and McGlade (1997b) 14.

which is capable of dynamic self-organising diversity; it is the nonlinearity which defines the system's development, and which encourages, in fact determines, the system's capacity for emergence.[67]

When wishing to create a complexity-oriented model for Roman money the first difficulty one tackles, regardless of graphical choices, is to decide what shall be displayed as "nodes", i.e. as the factors, the elements which comprise a system; and what shall be displayed as "arrows", i.e. as the causal relations, the connections and boundaries imposed on the system's elements. This difficulty derives first and foremost from the Janus-faced nature of money, being both abstract and concrete; and we have seen the confused (hence confusing) terminology used by Roman jurists in the face of money's duality,[68] and the multiplicity of things which acted as physical manifestations of money. Are these to be displayed as *factors* (i.e. nodes), or as *flows* (i.e. arrows)? And, more generally, what shall be categorised as 'money'? Is money only coinage (surely not), or should records of obligations also be classified as money (surely yes); and if so, which records fall under such a category? Do metals qualify as money only when struck into coins, or also when casted in the form of bullion? Is the former, i.e. coined metal, a case of commodity-money or of token-money? And, assuming we have established which objects represent physical manifestations of money, how shall a model depict the difference between cash and credit? All of these questions, complicated as they may be, comprise just one level of difficulty.

[67] On 'emergence', see p. 296, above.

[68] Because money is the ultimate quantifier of value every form of wealth may be considered as money (*pecunia est omnia corpora*); be that as it may, more often than not when Romans talked of *pecunia* they had more physical manifestations of money in mind, especially coinage.

Second, there is need to decide which legal formations that dictate economic interaction should provide the system's terminology. It is not only that modern institutional categorisation of exchange essentially differs from that of antiquity (e.g. the Roman *locatio conductio* encompasses several modern institutions including lease, hire, and employment); but also, within the Roman empire there were various active legal traditions, each following its own internal logic, hence resulting in a somewhat different institutionalised organisation of exchange. Thus, for example, under the general modern category of 'loans' fall various ancient legal institutions: in Roman law there was *pecunia credita* created via *stipulatio*, as well as the Roman contracts of *mutuum*, *commodatum*, and probably also *depositum*; in Greek-Hellenistic tradition several formulae accommodated lending relations including *δάνειον*, *χρῆσις*, *παραθήκη*, and contracts which came to be known in the scholarship as 'Sale on Delivery', which created *de facto* loans to be repaid in kind; and in Jewish law one finds loans given by a creditor (*mal'veh,* מלוה) to a debtor (*loveh*, לווה; the root for both is ל.ו.ה), alongside "loans-for-use" (given by a *mash'iil*, משאיל, to a *sho'el*, שואל; the root for both is ש.א.ל), which resemble the Roman contract of *commodatum*, and which Jewish legal categorisation places under the 'Laws of Deposits/Guardians' (*Dinei Shomrim*, דיני שומרים). Which of these, if any at all, should be displayed as *factors* (i.e. nodes)? Moreover, how should connections between all of these legal formations is to be displayed?

At the end of his 2005 publication John Davies suggested that economic analyses of antiquity should emphasise the following questions: 'What institutions, practices, and values comprised the environmental framework within which economic activity took place? How did systems evolve that assisted the creation, movement, and delivery of

goods and services in a landscape? How did they interact with forms of behaviour that had different objectives?'[69] In many respects the present study followed this general injunction. It examined the institutional framework within which money operated economically, it analysed specific money-related instruments and how these evolved over time, and it observed how Roman legal institutions interacted with non-Roman legal formations which operated under Roman regime.

In what follows I offer a complexity-oriented visualisation, portrayed on an abstract topological planar (Fig. 8). It generally follows the outline offered by John Furber in his Systems Biology of Human Aging model (Fig. 7), whilst concentrating on Roman law, which has been the main focus of this study. In this symbolic diagram the nodes, i.e. the factors which construct the model, represent the various legal contracts and agreements which dictated Roman economic interaction: the square boxes represent Roman contracts and other legal formats for creating obligations (e.g. *emptio venditio*, *mutuum*, *stipulatio*, etc.); the round-edges boxes represent generalising categorisations (e.g. credit [=*pecunia credita*], consensual contracts, real contracts); and the arrowed-boxes represent formats or instruments which increase the connection, commitment, or obligation of the parties (e.g. penalties, interest, earnest payments). The arrows in the model are of two kinds: thinner lines represent causal sequence of events, and thicker lines represent flows, movement, or transport of things. Additionally, colours also have meaning, as indicated in the 'colour key', representing: cash, credit (including records of obligations used as money), coinage, metals and perishable goods used as money, and things (goods and services) not conceptualised in monetary terms.

[69] Davies (2005) 155.

The diagram (Fig. 8) is not a complete representation of all that is relevant to Roman economic use of money. After further analyses other contracts as well as legal and economic institutions may be added (e.g. securities, *societas*, *mandatum*); while some of the institutions which are included have not been sufficiently analysed in this study and deserve more research (e.g. penalties, *arra*). Furthermore, the 'colour key' does not accurately display the complicated relation between the various physical manifestations of money on the one hand, and the essentially abstract division into cash and credit on the other hand (thus, for example, coins and consumable goods can be used as physical manifestations of money in both cash and credit transactions). Yet, even in its current state this diagram reflects the diversity, interconnectedness, decentralisation, and nonlinearity, which characterised Roman money.

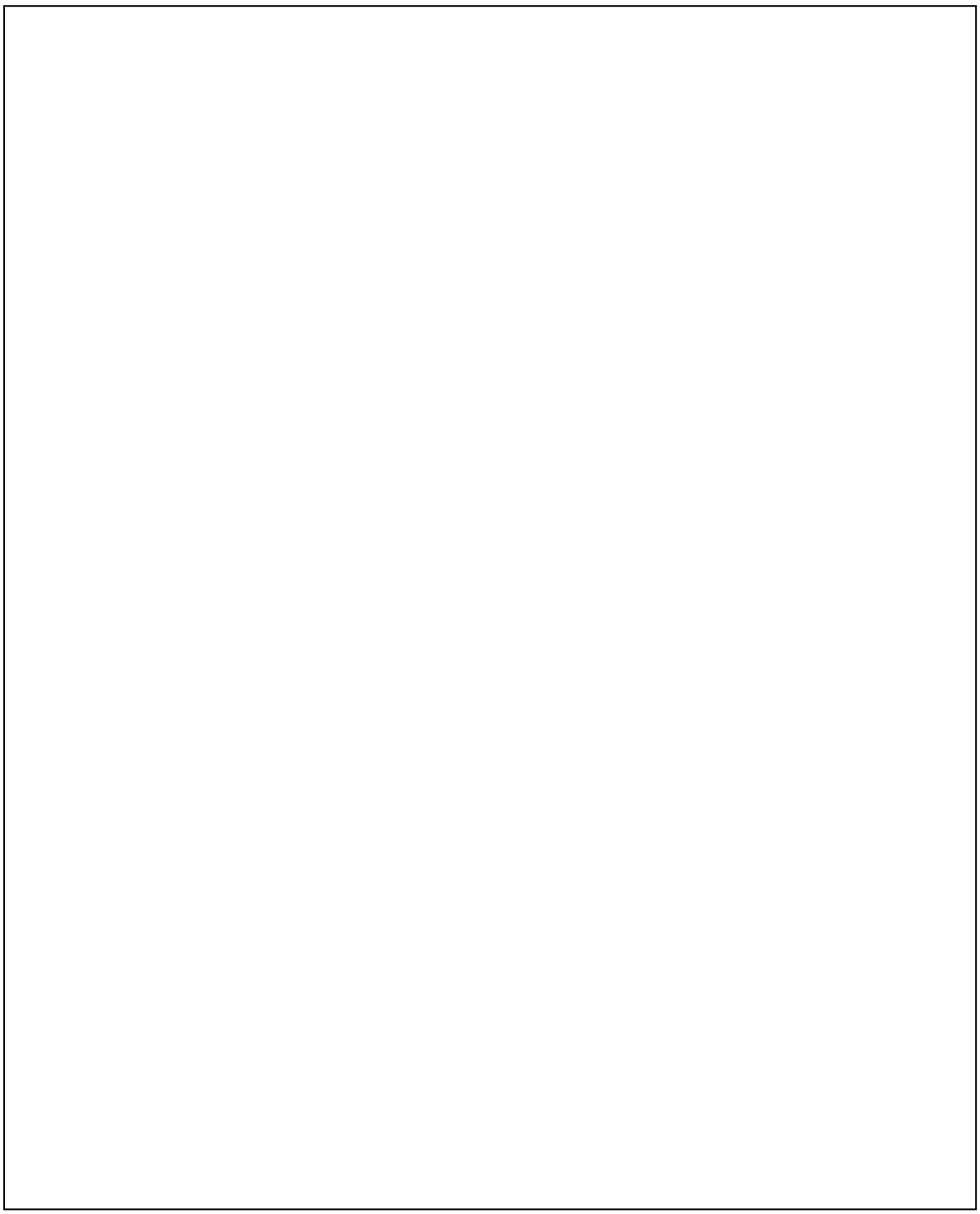


Fig. 8.

This intense diagram (Fig. 8) has several advantages. It takes into account the abstract nature of money, whilst accommodating a spectrum of physical manifestations; it demonstrates connections between Roman legal institutions that enabled self-adjustment and emergence of new formats; and it displays just how central and omnipresent credit was in Roman economic life. The diagram shows the outcome of the Sabinian-Proculian controversies regarding the pecuniary nature of both *pretium* (price) in *emptio venditio* (sale), and *merces* (rent/wages) in *locatio conductio* (lease/hire). Therefore the clear division between *permutatio* (barter) and *emptio venditio* (sale); the former placed in the sphere of real contracts, coloured in grey to indicate things not conceptualised in monetary terms; the latter placed in the sphere of consensual contracts, its colours indicating that whether performed in coinage (purple), metals (yellow), or perishable goods (green), and whether conducted in cash (red) or credit (blue), it was conceptualised in monetary terms. Additionally, the thick arrowed-line from *emptio venditio* to *permutatio* indicates that any permanent transfer of goods (hence the arrow's green colour) not conceptualised in money (hence its grey frame) no longer could qualify as *emptio venditio*, but fell under the category of *permutatio*.

To illustrate how the diagram condenses the analyses conducted in this study, let us consider the example of *depositum*. As it is a contract, *depositum* is represented by a square box, which is placed within the sphere of a round-edged box, representing the generalising category of real contracts. Since in its very essence *depositum* created credit relations—with one party, the depositary, indebted to the other party, the depositor; namely, to return the deposit intact—this box is coloured in blue. Since *depositum* could concern coinage, metals, perishable goods, or things not conceptualised in monetary

terms, the box is also marked with purple, yellow, green, and grey, respectively. Metals, perishable goods, coinage, and other forms of cash given by way of *depositum* create credit; hence the yellow, green, purple, and red lines (respectively) representing the causal sequence of events between *depositum* and *pecunia credita*. The latter, *pecunia credita*, is represented by a round-edges box, as it is a generalising categorisation, rather than a type of contract or a format that enhanced connection between parties.

Additional obligations may augment a *depositum* via *stipulatio* (the latter being a legal format that created obligations, hence is also displayed by a square box); therefore, the two institutions, *depositum* and *stipulatio*, are connected with lines representing causal sequence of events, coloured in either red (representing 'cash') or blue (representing 'credit'). A *stipulatio* could create commitments to pay penalties or interest; both being instruments that enhance the connection between parties, hence are displayed by arrowed-boxes. As regards 'penalties', it is causally linked with *stipulatio* via purple, yellow, green and red lines, representing the offending party's obligation to render coinage, metals, perishable goods, or cash in general, respectively; all of which conceptualised in monetary terms. As regards 'interest', except for penalising interest, it was relevant only in cases of interest-bearing deposits. It is in such cases that the thicker arrowed-lines—generally representing flows, movement, or transport of things—become relevant. The purple thick arrowed-line from *locatio conductio* to *depositum* indicates that safekeeping in return for remuneration was no longer conducted solely under *locatio conductio*,[61] but could also be accommodated under interest-bearing deposits. The blue (=credit), red-framed (=cash), thick arrowed-lines connecting *depositum* with both

[61] No matter whether regarded as the so-called *locatio conductio operis* (contracting a task), or *locatio conductio operarum* (employing a guard).

mutuum and *pecunia credita* represent the interchangeability with which parties actually used these legal formats. That is, the flexibility with which parties switched from loans to deposits and back, creating *de facto* interest-bearing deposits. Lastly, the yellow and purple thick arrowed-lines connecting *depositum* to *pecunia credita* represent the potential of interest-bearing deposits of durable pecuniary instruments such as coinage or metals to contribute to the supply of money by allowing a mechanism which might create credit money.

One crucial defect of this visualisation is that it concentrates on Roman law as if it was a closed system; hence, it does not accurately reflect how ubiquitous and boundary-crossing phenomenon money actually was. How can a model depict the institutionalised role of money in monetary economic interactions carried out under simultaneously coexisting legal systems? For this purpose I offer to create an experimental visualisation by adopting as an inspiration a Circular Hierarchical Edge Bundles model (Figs. 9). This model is a computerised method developed for software engineering for visualising massive sequence and adjacency relations in hierarchical data.[62] It enables visualisation of enormous amounts of data in a condensed, scalable, and interactive manner, while advancing a dynamic approach for representing information pertaining relationships, and the chronological order in which interactions take place. Neither the technical details of this tool, nor its authors' original intentions in applying it, should concern us here.

[62] Cornelissen, Holten, Zaidman,*et al*. (2007); (2008); Holten (2006) 741: 'Hierarchical edge bundling reduces visual clutter when dealing with large numbers of adjacency edges'; it 'is based on the principle of visually bundling adjacency edges together analogous to the way electrical wires and network cables are merged into bundles along their joint paths and fanned out again at the end, in order to make an otherwise tangled web of wires and cables more manageable'.

Rather, attention should be focused on its visual product. This is a diagram comprised of two synchronised "views": (1) a *circular bundle view* that projects the system's structure on a circle in terms of hierarchical elements (and the relationships and interactions between them); and (2) a *massive sequence view* that provides a global overview of the trace, i.e. the consecutive connections between the system's elements in a chronological order, or in some other hierarchical way.

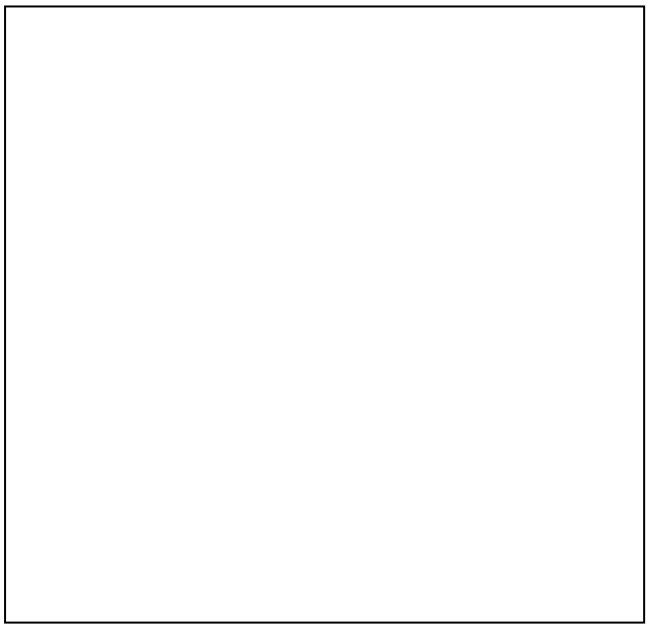


Fig. 9a.

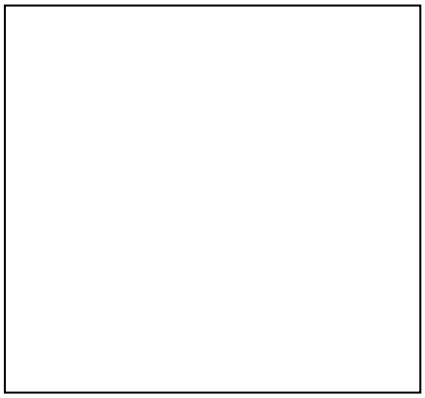


Fig. 9b.

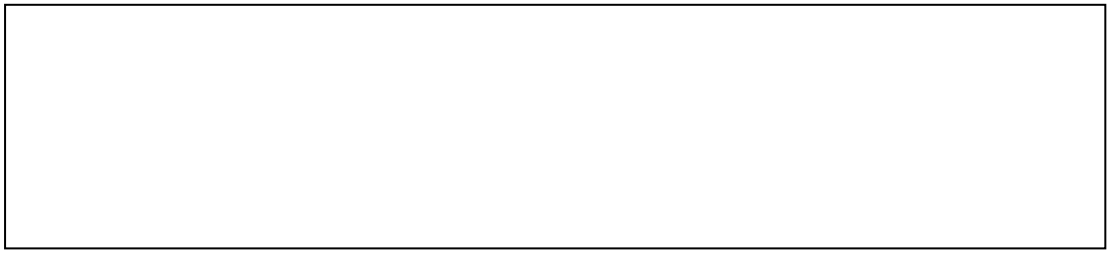


Fig. 9c.[63]

[63] Holten (2006) Fig. 14, who states the following: 'Using the bundling strength b to provide a trade-off between low-level and high-level views of the adjacency relations. The value of b increases from left-to-

A *circular bundle view* offers a detailed visualisation of a system's structural entities and their interrelationships, and has a capacity to accommodate multiplicity of systems operating within the same sphere. This is precisely the situation we have observed for money in the Roman empire: money was an omnipresent institution, extremely significant for economic interaction carried out through simultaneously coexisting legal systems. Individuals used money in economic contexts while moving within and between legal institutions, and (sometimes) also legal systems, in accord with what they perceived as most beneficial. I now go on to explain why the visual model helps in ways that this verbal statement does not.

To depict this dynamic economic and legal sphere, let us imagine a circular diagram similar to the one displayed in Fig. 9a, where the outer circle represents different legal systems operating under Roman regime (Roman, Greek-Hellenistic as developed in Asia Minor, Greek-Hellenistic as developed in Roman Egypt, Jewish, etc.). An inner circle gives further specification and is divided according to the internal categorisations of each legal tradition. (E.g. in the case of Roman law categorisation should include subdivisions into *ius gentium* and *ius civile*, *ius honorarium* and *bonae fidei iudicia*, consensual contract and real contracts, etc.; and we can imagine several such diagrams representing chronological developments in Roman legal categorisation). The next level of classification, i.e. another circle inwards, further details each system's structural entities, i.e. the contracts and legal formulae which it contains (e.g. *mutuum*, *commodatum*, *depositum*; *δάνειον*, *χρῆσις*, *παραθήκη*; etc.). Thus, a visual image is

right; low values mainly provide low-level, node-to-node connectivity information, whereas high values provide high-level information as well by implicit visualization of adjacency edges between parent nodes that are the result of explicit adjacency edges between their respective child nodes'.

created which topologically displays the institutionalised legal environment within which economic interaction occurred in the Roman empire.

The next phase is to display the interrelationships between money and these structural entities. For this purpose I rely on the notion of a *massive sequence view* as developed in the Circular Hierarchical Edge Bundles model. In that model sequences indicate relations between two elements which generally display a parent-child relation, i.e. it depicts a flow from source to destination (in Figs. 9 the former is denoted in green, the latter in red). Because what matters for economic analysis is *flows* of goods and services—and in the case of the present study, the relation of money to these flows—it is not only the relations between legal institutions which concern us, but also the economic interaction of persons. For this purpose, I offer to add to the circular diagram verbally depicted above another level of specification, which details the parties involved in each legal format. (Thus, under *emptio venditio* we find *emptor* and *vendor*; under *fideicommissum*, we find *testator* (the benefactor), *fideicommissarius* (the benefited), and *fiduciarius* (the person on whom the obligation was laid); under *δάνειον* we find creditor and debtor; etc.).

The sequences which connect the hierarchical entities in this formation are of two sorts: (1) solid lines represent movement of goods and services; and (2) tripled-lines represent connection between structural entities. Colouring also has two levels of significance: (1) different colours indicate the form in which transactions took place, according to the 'colour key' offered in Fig. 8; and (2) an interpolated colour gradient shows the direction of the exchange, the edge running from source (bright) to destination (dark). Thus, for example, Fig. 10 shows the possible interactions between *emptor* and

vendor: the *emptor* gives the *vendor* perishable goods (green) or other non-pecuniary things (grey), in return for which the *vendor* renders coinage (purple) or other form of cash money (red), while both parties may act under credit conditions (hence the non-gradient blue line). In case other contractual formats augment a transaction, e.g. securities or penalties, additional lines could be drawn to connect parties in the main contract to the auxiliary agreements.

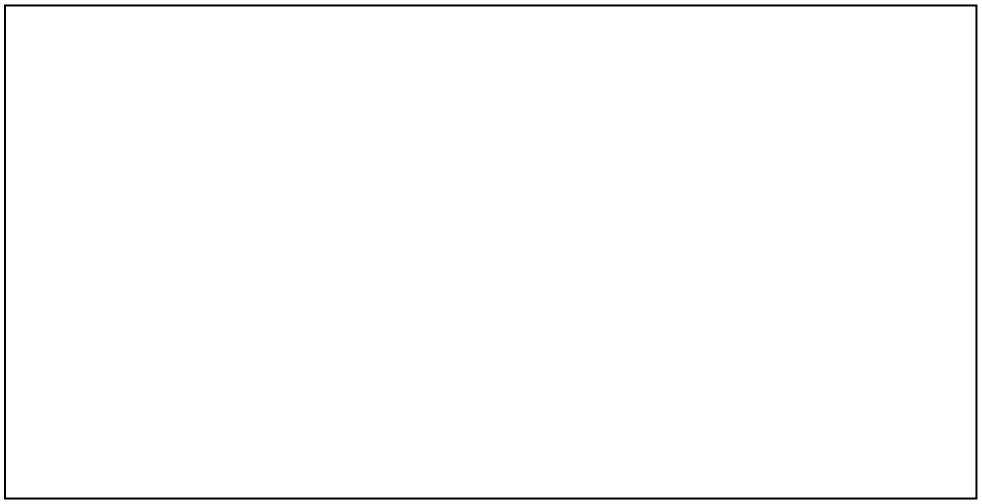


Fig. 10.

Relations between legal institutions are depicted with triple-lines, which represent sequences that connect the different structural entities of the Roman empire's legal sphere, comprised of several legal traditions. Let us consider for example the case of interest-bearing deposits, shown in Fig. 11. In this diagram *παραθήκη* is connected to both *depositum* and *Shomer Hinam* with solid blue tripled-lines, indicating that these are parallel formats in which credit is created by rendering a deposit for the sake of

safekeeping. *Παραθήκη* connects also to *mutuum*, showing that the two institutions could be treated as parallels, i.e. as formats for contracting monetary loans (with red and blue representing the cash and credit elements of such transactions, respectively). *Shomer Hinam* and *Shomer Sakhar* came to be two separate legal institutions, with the former based solely on credit (blue), while the latter required pecuniary remuneration (hence, the red representing cash money). *Shomer Sakhar*, the Jewish legal format for a paid safekeeping, is connected also with the Roman *locatio conductio*; the colouring of this sequence indicating that while *Shomer Sakhar* belonged to the sphere of deposits, i.e. created credit relation (=blue), the so-called *locatio conductio operis* enabled contracting a service, i.e. safekeeping (=grey), rendered for a pecuniary payment (hence, the purple representing coinage).

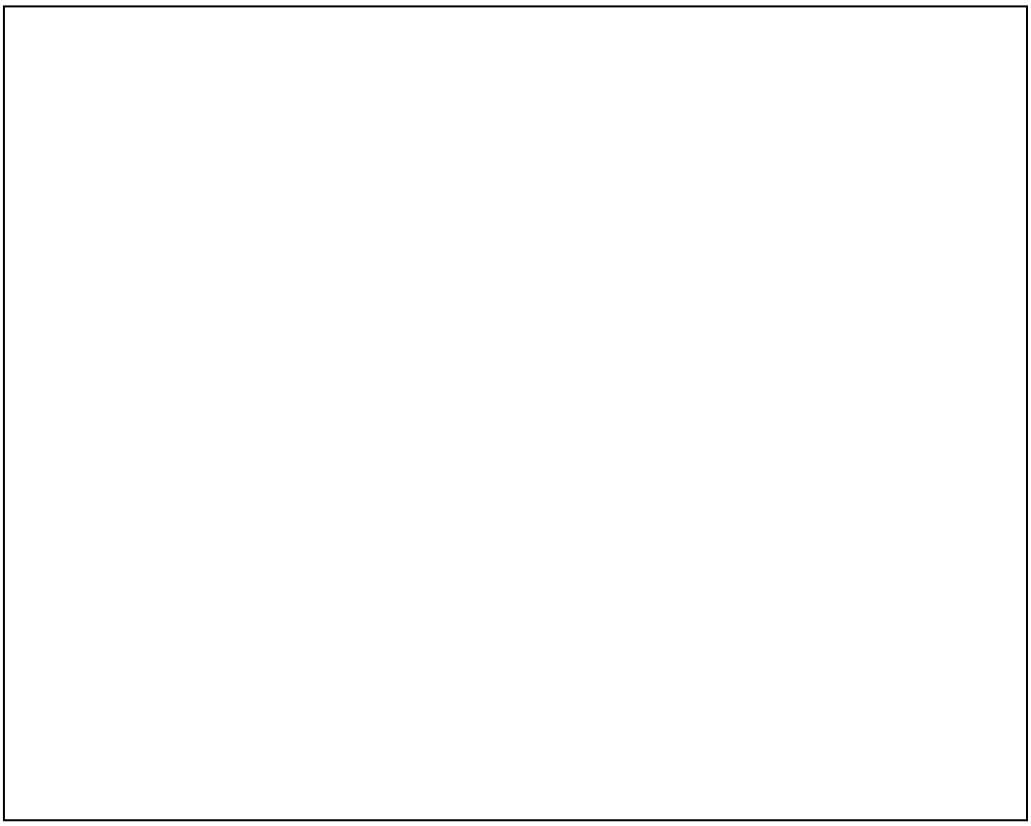


Fig. 11.

A combination of the two types of sequences on the same topological circular planar—the solid lines representing movement of goods and services, and the tripled-lines representing connections between the system's structural entities—would look something like the diagram shown in Fig. 12. In this example, the solid lines follow the explanation given for Fig. 10, while the tripled-line shows the triumphant Proculian stance as to the separation between barter and sale. In the former transfer of goods and services was conducted in a non-pecuniary manner, hence the line's grey colour; in the latter transaction was to be in *numerata pecunia*, hence its purple colour.



Fig. 12.

These visual examples, given in Figs. 10-12, may provide some sense as to how a compound image may be created, which (1) topologically presents the institutionalised legal sphere within which monetary economic interaction occurred in the Roman empire; (2) shows the institutional connections between the structural entities of the different legal traditions in operation under Roman rule; and (3) displays in a condensed manner the direction of the various types of monetised (and non-pecuniary) movements of goods and services, which could take place within the Roman regime. Thus, for example, an explanation of the supposed economic crises of the empire would consist in seeing how the entities and the behavioural relations depicted in these models differed in the early third and the early fourth centuries. The models would be similarly visualised but the narrative would describe the difference-of-fit shown in the data.

9.4. Conclusions

The aim of this study has been to analyse the institutional framework within which money operated as an economic agent in the Roman empire, with its main focus being Classical Roman Law as reflected in the writings of Roman jurists in the second and early-third centuries CE. We have seen that Roman jurists took a broadening view as regards what qualified as money, while nevertheless displaying somewhat ambiguous terminology in conceptualising money; offering no clear distinction between money's physical manifestations on the one hand, and its abstract nature as a quantifier of value, hence as the ultimate manifestation of wealth, on the other. When it comes to juridical procedures and definitions, during the period here under investigation legal debates took place that had significant effect on the role allocated to money in exchange transaction.

By the third century CE money emerged as a pivotal component in defining some of the most central Roman legal formats for economic activity. It became a focal component in legal definitions of exchange, the status of the parties involved, and the nature of the interaction between them.

A second level of analysis was to view changes in the use of money across the board of the different legal traditions which operated under Roman regime. Such an analysis achieved the most detailed level of investigation mainly with regard to interest-bearing deposits. Studying this money-related institution as reflected in three different legal systems shows just how interconnected the institutionalised legal sphere of the Roman empire actually was. The complexity of the economic environment within which the empire's inhabitants operated was such that reciprocal movements of ideas and legal formats took place within and between legal traditions. Individuals self-adjusted their course of action to this dynamic reality, using a range of available legal formats according to which had best suited their interests; thereby casting new meaning into existing institutions, with the outcome of transforming money into an omnipresent phenomenon and an underlying formation of thought.

The innovative contribution of this study has been in suggesting a complexity-oriented approach to modelling the behaviour of money in the Roman empire. Such an approach, I believe, should be of interest not only to economic historians, but also to ancient historians generally; as it helps to understand the multidirectional dynamics of economic and legal interactions in a diverse and multicultural society as the Roman one. Perhaps the most deductive conclusion of the complexity approach is that we cannot understand 'growth', 'decline', or 'crisis'—in the Roman empire in the second and third

centuries CE, or in any other time or society for that matter—only in terms of 'inflation', or changes in the currency, or in the finesse and quality of the coinage, as historians have tended to do in the past. Such an explanation would just be too simplistic; hence, fails to explain, for example, why the papyri from the third and early-fourth centuries CE do not show significant changes in individual patterns of behaviour in documentation of economic transactions by "ordinary people";[64] or, why numismatic evidence from the late-second and early-third centuries, which displays consistent decrease in coin quality and an increase in coin quantity, does not sufficiently correlate with evidence for relative price stability.[65] This is partially because how people regard money does not depend solely on its physical manifestations. In fact, more often than not how money behaves—whether it is debased, devalued, or re-tariffed—is detached from the actual value of the tokens which represent a currency at any one moment in time or any one place. People still use money in the same ways, because the governmental authorities do nothing to change that, either in law or in practice.

Changes, of course, do occur, but these are driven by dynamics which cannot be described simply in linear terms of cause and effect. Money is an amorphous formation of thought which may accommodate different interpretations; these form and influence the cognitive institutional framework within which people operate. Changes in the meaning cast into the notion of money affect its economic applications; a relation that also goes the other way around, i.e. alterations in how money is applied in economic exchange influence how people perceive and understand money. These alterations could derive

[64] Bagnall (1985); Drexhage (1991); Carrié (1997).
[65] Rathbone (1996); (1997); Carrié (2007); Haklai-Rotenberg (2011).

from a top-down institutional intervention, whether consciously initiated,[66] or unintentionally introduced[67]; or, be motivated by bottom-up developments, stirred by the desire of individuals to better pursuit their interests within a complex network of legal, social, and economic possibilities. The present study provides an in-depth, albeit restricted, account of Roman money as a complex phenomenon; thereby suggesting how future research on period(s) of "economic crisis" might proceed by using complexity-oriented approaches of the sort advocated here. The natural next step is to see how these approaches can be translated back, or applied to, a narrative economic history, particularly of the period from Hadrian to Constantine.

[66] As, for example, the introduction of a lower maximum interest rate after the Roman annexation of Egypt.
[67] E.g. the reciprocal exchange of ideas and legal formats which is the outcome of the fact that different legal traditions coexisted within the same political, administrative, and economic sphere.

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