

Agricultural Tenancy and Village Society in Roman Egypt

JANE ROWLANDSON

MY CONTRIBUTION TO THIS VOLUME is concerned with how the land lease contracts which survive on papyrus can be used most effectively as a source for the social history of Roman Egypt. This involves not only treating them as a source for statistics, on rent levels, for instance, but also exploiting the complexity and detail of these documents to set them into their particular social and agricultural contexts. A very significant advantage of these texts is that, unlike the evidence on which many of the other contributors rely, these leases were not records of public administration, but were mainly private arrangements made at the local level between individual landowners and tenants. They therefore offer the chance to look at agrarian relations in the countryside of Roman Egypt from the perspective, not of the state, but of those people most concerned with actually farming the land.

Land leases have been widely recognised as one of the most important sources for the understanding of agrarian conditions in Greek and Roman Egypt, because of both the sheer numbers of surviving texts and their broad chronological range. Well over one thousand land leases written in Greek have been published to date, spanning a millennium from the third century BCE to the seventh century CE, essentially the whole period of the Ptolemaic, Roman, and Byzantine administration of Egypt.¹ Despite minor variations of format over time and between regions, these texts all basically share the single legal form of the *misthosis* (lease contract), and are thus readily comparable in content. There was also, of course, an Egyptian tradition of agricultural tenancy, originally independent, and

¹ The standard studies of this type of document are Waszynski (1905); Herrmann (1958); Hennig (1967).

then interacting with the Greek, so that by the sixth century we find leases in Coptic closely parallel to contemporary Greek ones yet also preserving clauses found over a millennium earlier in the demotic Egyptian leases of the Saite period.² The corpus of published land leases in Egyptian (demotic and Coptic) is considerably smaller than that in Greek, but offers comparable information over an even longer time span.

The geographical spread of this evidence, like that of the papyrus documents in general, is by no means as broad as we should like; conditions suited to the survival of this organic material are found primarily along the fringes of the desert.³ The entire Delta is represented only by a small group of Alexandrian texts that happen to have been preserved elsewhere in Egypt, and our evidence is heavily concentrated in the northern Nile Valley and the Fayyum. Nevertheless, this provides a sufficient geographical spread for historians to see some point in comparing rent levels in leases from different locations to suggest relative prosperity, as well as in tracing chronological change in the levels and character of rents during the period.⁴

This opportunity for broad comparison from a relatively homogeneous series of documents is obviously immensely important for ancient social and economic historians, who normally lack any kind of statistical information. But we do have to be careful that we are comparing like with like. For example, it is extremely difficult to demonstrate whether or not the inflationary period of the early fourth century saw a movement towards the payment of rents in kind rather than in money, since the leases of this period show changes in the balance of crops; and the main determinant of the form of rent, whether in kind or money, was always the crop to be grown.⁵ To take another example, the surprisingly high rent levels (of up to 15 *artabas* per *aroura*) on some second-century wheat crops must be interpreted in light of the fact that in alternate years little or no rent was apparently charged on the same land under a fodder crop (see further below).

So long as care is taken to allow for problems of this sort, the leases offer a real possibility of adopting the perspective of *la longue durée*; in particular, they offer notable points of comparison, as well as contrast, with the much later forms of tenancy discussed by Gladys Frantz-Murphy and Reem Saad elsewhere in this volume. But my primary concern here is to argue for the importance of also looking in close detail at groups of leases within their local context, both for the light they shed on the agricultural conditions of that locality, and for the understanding gained by setting the leases against the other types of information we have about that locality. The potential benefits of a detailed local analysis of the leases are not simply to illuminate agrarian conditions in one particular area;

² Further details, and references in Rowlandson (1996), 209–11; see also Eyre (1994).

³ Bagnall (1995), 10–12; Turner (1980), ch. 4.

⁴ E.g. Hennig (1967); Drexhage (1991); Muth (1994); I owe the last reference to Michael Sharp.

⁵ Rowlandson (1996), 236–47, esp. 246f.

rather, the aim is to provide a much sounder basis for using the leases in more general comparisons.

The value of the land leases for the social historian of Greek and Roman Egypt lies not only in the numbers and spread of their survival, but also in the immense richness of detail and variety of provisions contained within the parameters of the required legal formulas. The complexity of provisions, as well as the number of surviving documents, is greatest during the Roman period, roughly from the first to the fourth century CE; here I shall be focusing mainly on the first half of this period.

It is remarkable how much care was taken in articulating the provisions of what was an essentially ephemeral document, not one which, like a marriage contract, might remain valid for much of a lifetime. The most regular duration for a lease contract was a single agricultural year, and few were made for more than four years; no doubt that is why so many have survived. Although some arrangements may have been tacitly allowed to continue in force after expiry, it was clearly quite normal to produce a further written lease.⁶ The prevalence of written leases is demonstrated by the archive of the *grapheion* (record office) of the Fayyum village of Tebtunis, a source which is discussed in more detail below. In the complete list of all contracts drawn up through the *grapheion* for the year 45/6, land leases are the most common single type of document, comprising 23 per cent of the total contracts made during that year (see Table 7.1). The use of written documents for such short-term agricultural arrangements is, I believe, a striking illustration of the widespread use of writing in Roman Egypt, in private business affairs as well as in public administration, even by people who were not comfortably literate.⁷

Table 7.1^a Land leases as a proportion of all contracts registered through the *grapheion* of Tebtunis.

Months	<i>P. Mich.</i> 123 (45/6)			<i>P. Mich.</i> 238 (46)			<i>P. Mich.</i> 121vo (42)		
	Total entries	land leases	%	Total entries	land leases	%	Total entries	land leases	%
Thoth–Choiak	230	77	33	241	48	20			
Tybi–Phamenoth	190	30	19						
Pachon–Mesore	253	60	23				247	51	20

^a See Toepel (1973), 134–6 for a more detailed breakdown of these figures.

⁶ Rowlandson (1996), 252–5.

⁷ The signatures to the documents (in which illiterates would get a substitute to sign on their behalf) show that in general, male lessors were commonly literate; female lessors and tenants of both sexes were commonly illiterate. On the use of written documents and questions of literacy in Roman Egypt, see further Hopkins (1991); Hanson (1991).

A land lease normally recorded the following information: the name and other details of both lessor and lessee; a description of the land, including its tenurial status, area, and approximate location; the duration of the contract and the precise date when it was drawn up; the crop(s) to be grown; the rent (including where and by what measure it should be paid), and any extra payments; and various guarantees and penalty clauses for each party. The precise conventions of wording, and the inclusion of some standard clauses, were subject to regional as well as chronological variation, but the following example from second-century Tebtunis is characteristic, both of the general format of leases, and of some of the formulas typical of the south Fayyum at this period:⁸

To Taotion daughter of Ptolemaios through her son Apollonios son of Lourios alias Apollonios, from Dioskoros son of Kastor son of Ailouras, of the Tameion quarter, Persian of the epigone.⁹ I wish to lease from you for two years from the coming¹⁰ fourteenth year of Titus Aelius Hadrianus Antoninus Augustus Pius [i.e. Antoninus Pius] the half share, common and undivided, from your property near Tebtunis, of an allotment of ten arouras more or less called 'Ilatos'; to sow in the first year with barley at a rent, including five artabas of barley seed, of ninety artabas of barley in all, all by the four-choinix¹¹ measure of the granary of Tebtunis. And the second year to sow grass [*chorios*] for cutting and drying, at a money rent without seed of eighty drachmas of silver, plus a gift to the festival of Isis each year of one fowl worth two drachmas, all free of deduction and of risk. And I shall complete the customary work as appropriate, and hand over the rent in kind in Pauni on the threshing floor, new, clean and unadulterated, and the money rent in Phamenoth, the carriage charges being my responsibility, but the transport of rent in kind being yours. And when the time has expired, I shall hand over the arouras clear of rushes, reeds, coarse grass and every weed. And you will also guarantee the lease to me free of public dues, if you consent [to lease on these terms].

(*Signature*): Dioskoros about 22 years old, scar on the little finger of his left hand. (Year) 13 of Antoninus Caesar the lord, Mesore 20 [13 August, 150 CE].

The lessor Taotion and her son Apollonios belonged to one of the élite families of Tebtunis known from several other surviving papyri. Taotion's husband Lourios alias Apollonios (who had died between 132 and 143) had been in charge of the grapheion of Tebtunis for some thirty-five years, and his grandson Achilleus, son of Apollonios, is attested as notary there in 173.¹² The élite landowning families of Tebtunis like this one held the privileged status of metropolitan residents (which gave a reduced rate of poll tax), and indeed would have business inter-

⁸ PSI X 1124.

⁹ The phrase 'Persian of the epigone' has by this time no ethnic connotation, but denotes a fictive legal status taken by the indebted party to a contract.

¹⁰ The year began on 1 Thoth (29 August).

¹¹ The choinix was 1/40 of the standard artaba (of 38.78 litres); Rathbone (1991) 465–6.

¹² On the family, see Toepel (1973), 15–21; *P. Kronion* p. xxxi; *P. Mert.* III 123 (a fragmentary land lease made by Apollonios' wife shortly after the lease quoted here).

ests in the *metropolis* (nome capital), Ptolemais Euergetis. A census declaration of 189 shows that Achilleus owned a house there tenanted by the extended family of a donkey-driver, while he himself is described as a *katoikos*, one of the most select group of hellenised inhabitants of the Arsinoite nome.¹³

Female lessors were by no means uncommon, but as in all major legal transactions, women needed to be represented by a male, who is normally described by the formal term *kyrios* (guardian); here Apollonios apparently simply acts on his mother's behalf. Legal formalities do not, however, necessarily reflect the practicalities of decision-making; we cannot know what relative input Taotion and her son had in deciding to lease out her land and who to find as a tenant. Seven years earlier, when she had leased the same land to different tenants (two villagers from Tebtunis), she acted with her other son, Ptolemaios, as *kyrios*.¹⁴

In the lease quoted here, the tenant is a metropolitan resident, registered in the Tameion quarter. The distance of Tebtunis from the metropolis, some fourteen miles, would make it inconvenient though scarcely impossible for Dioskoros literally to perform all the agricultural work himself while residing in the metropolis. But we can never be sure from a lease who was in fact going to carry out the tasks of cultivation; the obligation on the tenant in this text 'to complete the customary work as appropriate' merely made him legally responsible for the work.¹⁵ Dioskoros could employ local workers, or even sublease the land, or do the work himself—perhaps he, like the landowner, came from a local Tebtunis family which possessed metropolitan status.

Taotion's land was privately owned, and would thus be liable only to a modest land tax to the state, probably one artaba per aroura, for which Taotion remained responsible.¹⁶ Her ownership was, however, apparently shared with another party, a common result of the partible inheritance system of Roman Egypt. 'Undivided' ownership meant that the land continued to be treated as a whole unit, with only the proceeds divided between the two owners; it is surprising to find no reference here to the other owner, with whom Dioskoros may have made a separate lease.¹⁷

¹³ *P. Tebt.* II 322. On the status distinctions, see Nelson (1979); Bowman and Rathbone (1992).

¹⁴ *P. Mil. Vogl.* IV 238; this incidentally shows that her husband (who otherwise would have been her *kyrios*) must have already have been dead. A loan of uncertain date (*P. Kronion* 22) shows a more distant relative acting as her *kyrios*; both sons must have been unavailable, either because they were not yet of age (implying a date before 143) or because they were dead (implying a date after 150).

¹⁵ This clause was standard in Fayyum leases, though not in those from elsewhere: Hennig (1972).

¹⁶ For the various tenurial statuses of land in Roman Egypt, see further below. The lease does not state explicitly that the land is private, but it is implied by the use of 'belonging' and 'allotment'. Tax liability is also mentioned only obliquely, in the last clause.

¹⁷ *P. Mil. Vogl.* IV 238 makes no mention of the shared ownership, implying that the ten arouras were wholly Taotion's; but leases were by no means always precise about such details (unlike sales, where the permanent title to the land was in question).

The lease exemplifies the typical crop rotation pattern for Roman Egypt, alternating cereal and fodder crops. Wheat was generally the preferred cereal, but barley was substituted where wheat was unsuitable; the earlier lease for the same land (made for four years) specified the cultivation of half wheat and half barley in alternation with *chortos*. In contrast to crop rotation schemes attested in the Islamic period,¹⁸ we find no hint of the possibility of cultivating more than one crop in the year. Evidence of double-cropping in Roman Egypt is extremely sparse, even on land irrigated by water-wheel.¹⁹ The inclusion of seed loan repayments in rents in kind is normal for Fayyum leases of private land, but was not universal practice.²⁰ Also standard practice generally was the setting of rent in kind on the cereal crop and in money on the fodder crop, with a gross discrepancy in value between the two. The net barley rent of eighty-five artabas on half of ten arouras gives an exceptionally high rate of 17 artabas per aroura (implying an even higher yield, if the tenant were to make any profit), whereas the rate of 16 drachmas per aroura on the fodder represents a meagre return.²¹ Some contemporary leases also from Tebtunis carry this discrepancy to even greater lengths, setting no rent at all on the fodder in combination with rents up to 15 artabas of wheat per aroura on wheat crops, but the logic of such a pattern remains obscure.

Leases often obliged the tenant to provide a small gift, of money, bread, fowl (as in this case), or even a piglet, for occasions which allow us the merest glimpse of that nexus of custom and social obligation surrounding agricultural practice which the legal perspective of the leases almost wholly eliminates. Gifts made for the *paidaria* (young lads) hint at a much broader involvement in the agricultural work (perhaps particularly in the harvest) than is explicitly referred to.²² More amply reflected is the seasonal pattern of the agricultural year, from the drawing up of the lease contract in the heat of summer or as the inundation receded in the new year, to the spring harvest and payment of rents, first in money, then two months later the cereal on the threshing floor of the village, where government officials would also be present to oversee the tax collection.

I hope that this brief examination of a single lease is sufficient to justify the claim that, ephemeral and formulaic though they were, these documents were meticulously 'personalised' to the contracting parties' individual requirements. Clearly there are things the leases cannot tell us, particularly about how decisions were made, how exactly the work was carried out, and the social setting of this work. But if groups of leases from the same area are subjected to close

¹⁸ Cooper (1973), esp. 48.

¹⁹ Rowlandson (1996), 20 (with refs.), 220. But it is apparently envisaged by *P. Mich.* II 121 recto col. II i.

²⁰ Rowlandson (1996), 222–4.

²¹ 16 dr. would purchase around 2 art. of wheat at this period: Rathbone (1991), 329–30.

²² Eitrem (1937).

examination, particularly in conjunction with other evidence from the same locality, they do offer useful information about both the agricultural conditions and the social relationships of landlords and tenants.

I first approached the leases with this aim in the final chapter of my study of the social relations of agriculture in the Oxyrhynchite nome.²³ It is clear that the single legal form of the *misthosis* could be adapted to suit a wide range of both agricultural and social requirements, from supplying local labour to work arable land in relatively small parcels, to more specialised forms of management needed for flax cultivation, or especially for the skilled work of vinedressers. In many leases throughout Egypt, of both the Ptolemaic and Roman periods, it is apparent that the tenant's contribution was primarily to provide finance and management rather than labour.²⁴ However, the predominant pattern of Oxyrhynchite leases, at least from the mid-first to the mid-third century, was for a metropolitan landlord (i.e. from the town of Oxyrhynchus) to lease arable land in one of the villages of the nome to a local villager, under a system of crop rotation alternating wheat and fodder, with a high rent in kind on the wheat crop and a much lower rent either in kind or in money on the fodder. The typical duration of this sort of contract was four years, and they might be renewed for further periods. Tenants normally supplied their own equipment and seed corn, and seem generally to have avoided becoming economically dependent on a single landlord, although some tenants needed loans or were otherwise financially indebted to their landlords. In the absence of explicit testimony, we cannot be sure what motivated the landowners of Oxyrhynchus to lease out their land, but it seems less likely that they were seeking to shift financial risk or responsibility on to the humble village tenants than to leave to them the daily chore of agricultural work in favour of the 'civilised' lifestyle of a rentier in the metropolis with only occasional visits to their property.

The dominance of this pattern of metropolitan landlords leasing to village tenants, and the relative homogeneity of the Oxyrhynchite leases as a whole, must reflect the origin of the Oxyrhynchus papyri in the rubbish heaps of the metropolis: what we have are the discarded business papers of the class of medium-scale metropolitan landowners. The many villages of the nome can be viewed only from the partial perspective provided by the role of metropolitan landowners in them. In some instances, this does give sufficient information to gain some sense of the character of different villages. Within the Upper toparchy (south) of the nome, for example, the sense of solid agricultural prosperity of villages such as Mermertha and Monimou in the centre of the valley, which are well represented among our core of 'typical' leases, contrasts with marginal agricultural conditions at Ision Panga near the desert edge. Here the leases are predominantly

²³ Rowlandson (1996), ch. 7.

²⁴ Cf. Kehoe (1992).

for fodder or flax cultivation rather than cereals, and land variously described as damaged by floods, sandy, and in a recently published text, 'containing rocky places'.²⁵

But what the papyri from Oxyrhynchus cannot tell us is how the use of leases by metropolitan landlords to provide labour for their landholdings fits more generally into the overall pattern of agricultural exploitation in the nome, particularly the practices adopted by village landholders. For we must assume that significantly over half the land in the nome was held by villagers in their own right (whether private owners or tenants of public land), in addition to their role as tenants of the land owned by metropolitans.²⁶ Scarcely any surviving land leases from Oxyrhynchus have village landlords, and none have villagers as both landlord and tenant, but this is surely a product of our evidence rather than of actual practice.²⁷ Leases between two villagers would be drawn up in the local village *grapheia*, leaving no record in the metropolitan waste tips.

Thus, to gain a more balanced perspective on the roles that leases played in the agrarian practices of Roman Egypt, we must look to evidence derived from villages rather than metropoleis, and that forces us to look at the Fayyum, even though there is reason to believe that Fayyum villages were on average somewhat larger than elsewhere in Egypt.²⁸ Since we do not have the luxury of looking for a 'typical' village, we may as well choose by the criterion of excellence of documentation, and here Tebtunis stands out. Tebtunis could certainly not be described as a typical village; in fact, despite its formal status as a *kome* (village), it would be more appropriately described as a town from the point of view of size and level of urbanisation. With an impressive stone temple of Soknebtunis the crocodile god (equated with Greek Kronos), as well as its record office, Tebtunis was a significant religious and administrative centre in its own right, a focal point for several satellite villages throughout the eastern part of the south Fayyum.²⁹ Its range of facilities, and the number of occupations attested for its inhabitants, are also broader than those of other villages, even in the Fayyum.³⁰

Nevertheless, there is a real sense in which Tebtunis, despite its untypicality as an 'average' *kome*, does offer a perspective on the social relations of agriculture significantly different from that of a metropolis such as Oxyrhynchus. Impressive though the ruins of Tebtunis are, its population can have been only

²⁵ Rowlandson (1996), 18f.; *P. Oxy.* LXI 4121.

²⁶ Cf. Rowlandson (1996), 122.

²⁷ Two that do have village landlords seem to reverse the 'normal' economic relationship between lessor and lessee: *P. Oxy.* XLI 2973, *P. Ryl.* IV 683; cf. Rowlandson (1996), 265. Also *P. Oxy.* XLV 3260.

²⁸ Rathbone (1990), 134.

²⁹ The 'Tutun basin'. Other large Fayyum villages, such as Karanis, also possessed dependent satellites.

³⁰ R. and R. D. Alston (forthcoming).

a fifth or a quarter that of Oxyrhynchus.³¹ In Oxyrhynchus, the urban élite's wealth was based predominantly on landed estates in the nome (often worked, as we have seen, by local villagers), but a variety of urban occupations in addition to agricultural activities supported the lower classes.³² Agriculture was central to the economy of Tebtunis, as it apparently was to most villages of the Oxyrhynchite nome. The largest Oxyrhynchite komai, such as Seryphis, Teis, Mermertha, or Pela, would no doubt emerge as not unlike Tebtunis in economic and social structure, if only we had comparably full documentation for them.³³

For Tebtunis, the quantity and range of documentation from the first two centuries offer a real possibility of our obtaining a balanced view of the forms and significance of tenancy within the overall pattern of agrarian relationships in the locality. In addition to the grapheion archive of the mid-first century, we have several dossiers of papyri relating directly to agricultural management and practice, as well as various documents unearthed from houses around the temple.³⁴ The documentary sources provide details of over one hundred lease contracts and related documents (which include lease abstracts from the grapheion archive, and withdrawals from lease contracts). These, together with the very full information on the particular estate of the descendants of Patron (which I shall continue to call the 'Laches Archive', to avoid confusion), constitute the bulk of our evidence for the agrarian conditions of the Tebtunis area. A further advantage of focusing on Tebtunis is that this plentiful information from documents can be set within a topographical context thanks to my colleague Dominic Rathbone's survey work in the south Fayyum.³⁵

³¹ There is no hard evidence for the population of either place at any point in the Graeco-Roman period. I accept an estimate for Oxyrhynchus of 20,000 to 25,000 (Rathbone (1990), 120–1), and would guess 4,000 to 5,000 for Tebtunis, which was surely larger than either Theadelphia or Karanis (Sharp, below, ch. 8; Rathbone (1990), 132–3). For a description of the site of Tebtunis, see Gallazzi and Hadji-Minaglou (1989); Gallazzi (1994).

³² R. and R. D. Alston (forthcoming).

³³ Seryphis was sufficiently self-important to invite the nome *strategos* (governor) to attend the local festival of Ammon; *P. Oxy.* LII 3694. On Oxyrhynchite villages, see further Rowlandson (1996), ch. 1, esp. 18–19; Krüger (1990); and for surviving physical remains of ancient villages in the region, Gomaà *et al.* (1991), ch. 6.

³⁴ For the grapheion archive see *P. Mich.* II and V, Jenkins (1992); cf. Toepel (1973). The large body of documents relating to the management of an agricultural estate, traditionally called the 'archive of the descendants of Laches', now more correctly 'of the descendants of Patron', is published in *P. Mil. Vogl.*; cf. Bagnall (1974); Clarysse and Gallazzi (1993). *P. Kronion* collects the documents relating to a family which owned a little land, supplemented by undertaking private tenancies; *P. Fam. Tebt.* documents a family of administrators and landowners; and *P. Tebt.* II miscellaneous documents found by Grenfell and Hunt in the vicinity of the temple. There are texts in Egyptian from the milieu of the temple (*P. Tebt. Tait*), including a land lease and other contracts (Botti (1957)). See Gallazzi (1990) for the precise provenance of the texts gathered by Achille Vogliano (i.e. *P. Kronion*, the 'Laches Archive' and other texts in *P. Mil. Vogl.*).

³⁵ Rathbone (1996); my presence on two short preliminary visits to the area has also informed my understanding of the documentary evidence.

We unfortunately do not know the total area of its territory, nor the proportion of private to public land, a factor which certainly varied from one village to another. The public land originated mostly, if not entirely, from the royal lands of the Ptolemaic period; in other Fayyum villages this could constitute over half the total village land.³⁶ This public land was mostly farmed by small-scale tenants (*demosioi georgoi*), organised collectively and represented by elders (*presbuteroi*). Most public land was apparently held on customary terms, not under written contract; the rents to the state varied, but the average was probably around three artabas per aroura.³⁷ There was also sacred land—some effectively in private possession, and some ‘public temple land’ administered by the priests.³⁸ A former estate of Kleopatra II near Tebtunis became, under Roman administration, territory of the city of Alexandria (held on lease by a female Alexandrian, who in turn subleased to two villagers); perhaps the Roman imperial family’s estate near Tebtunis derived similarly from confiscated Ptolemaic royal property.³⁹

Private land in Roman Egypt was characterised by paying a low fixed tax (rather than a higher, variable rent) to the state, and in being freely alienable. Although the right of free alienation by sale was an innovation of the Roman period, the private land also mostly derived from various older Ptolemaic land categories. The katoikic land consisted of that originally allocated to military settlers (kleruchs) of high grade; there was also other kleruchic land, and some (probably not much) *idioktetos*, land that even in the Ptolemaic period had been in private possession.⁴⁰ The impact of kleruchic settlement was clearly so significant that ‘the kleros of’ could function as a topographical description as much as an indication of tenure; but this practice was less standard than in the Oxyrhynchite papyri, and often around Tebtunis other forms of topographical description were used, such as ‘beside the great road’, ‘in the so-called western plain’, ‘in the so-called Kanabis (or Tkanabi)’, ‘in the so-called *drymos*’. The last was a marshy area to the north of Tebtunis, probably around the head of the Wadi Nezla.⁴¹ Part was actually under water and used for fishing, but part was

³⁶ For comparison, Theadelphia in 158/9 had a total of 5283+ arouras administered by the *dioikesis* (*fisc*), comprising: public land 3018+ ar.; hieratic land 103+ ar.; private land 2161+ ar. (*P. Berl. Leihg.* I 5); there was also imperial land not listed in that document: see further Sharp, below, ch. 8.

³⁷ Rowlandson (1996), 38–40, and ch. 3, esp. on the differences between public land in the Oxyrhynchite nome and in the Fayyum.

³⁸ *P. Tebt.* II 302, 311, 390; *P. Kronion* 19; *P. Mich.* II 121 recto col. IV v; *P. Mil. Vogl.* VI 274.

³⁹ *P. Mil. Vogl.* VI 269; *P. Mich.* II 121 recto cols. I xii, III x (estate of Claudius), cf. *P. Mich.* XII 634 (granary of Julia Augusta and the children of Germanicus).

⁴⁰ Rowlandson (1996), 41–55 on private land. On Ptolemaic land-tenure and kleruchic settlement cf. Manning, above, ch. 4.

⁴¹ Rathbone (1996), esp. 55–6.

leased out for grazing by the elders of the *demosioi georgoi* (public tenants) of the village.⁴²

Thus the agricultural quality of land in the territory of Tebtunis was variable: there was certainly some high-quality arable land, and the supply of water from the Polemon canal was more secure than that to the villages of the north-western Fayyum, such as Theadelphia. But land near the *drymos* might be rendered uncultivable either by the flooding of water from the *drymos* or by the rupture of a feeder canal.⁴³ References to the cultivation of vines, as well as olives, dates, and other fruits, are found mainly associated with wealthier landowners (particularly on the estate of the 'Laches Archive'), and may in the Roman period, as today, have been less prevalent here than further north in the Fayyum.⁴⁴ We should, I think, envisage the land of Tebtunis as predominantly arable, mostly growing wheat or barley, alone or in alternation with fodder crops, with also significant stretches of marshy ground and other permanent pasture (called *nomai* or *ktamia*).

This brings us to a closer look at the leases themselves and the related evidence. We are fortunate to have from the grapheion archive a complete list of leases drawn up at Tebtunis throughout the year 45/6, as well as for the first four months of 46/7 and the last four months of 41/2 (Table 7.1). But what exactly can be made of these figures in isolation from comparable lists from other periods and locations? Is it legitimate to assume that these represent 'average' years, particularly in view of the discrepancies between the years? Toepel in fact concluded that the year 45/6 had an unusually large number of lease contracts (particularly 'prodomatic' leases, in which the rent was paid in advance) because of a poor flood, at a period of general economic depression, the so-called 'first-century crisis'.⁴⁵ But how do we know what represents 'normality'?

Close examination, and comparison of the grapheion entries with the surviving contracts, suggests a highly complex picture. At first sight, a strikingly large proportion of all the first-century lease evidence (entries in the grapheion register, abstracts, and full lease contracts) appears to have concerned fodder rather than cereal cultivation. But in fact, virtually half the grapheion entries do not specify a crop; and if wheat was to be cultivated in all these cases (perhaps because it was taken for granted as the arable crop *par excellence*), the balance between fodder, cereal, and other crops would be exactly what might be expected

⁴² Fishing in the *drymoi* of Tebetnu and Kerkesis: *P. Tebt.* II 329, 359; leases by the elders of the *demosioi georgoi* of the 'drymos of the god': *P. Mil. Vogl.* II 105, V 313; also *P. Coll. Youtie* I 27. Also in the south Fayyum (the ancient division of Polemon), there was 'drymoi and desert shoreland' producing papyrus stalks: *P. Tebt.* II 308.

⁴³ *P. Kronion* 25, 29, 42.

⁴⁴ Extensive vineyards (and olive groves) near Theadelphia: Sharp, below, 174–85; Rathbone (1991) 244–60; vineyards were also prevalent in the north-east, around Karanis and Philadelphia. Ptolemaic Kerkeosiris, near Tebtunis, grew neither vines nor olives: Crawford (1971), 116.

⁴⁵ Toepel (1973), 159–62, 305–12; cf. Hobson (1984), 381–2.

Table 7.2 Breakdown of crops specified in lease entries in the grapheion register *P. Mich.* 123.

Type of crop	Number of mentions	
Unspecified	67	
Barley	1	
<i>chlora</i> (green fodder)	30	} fodder 61
<i>chortos</i> (grass)	24	
pasture	7	
<i>phlous</i> (reeds)	2	} other 11
vineyard	7	
orchard	2	
Total	140	

(Table 7.2). In the abstracts and full contracts, on the other hand, the prominence of fodder is largely accounted for by an identifiable group of one-year prodromatic leases, which mostly (although not all) involve the sublease of public land for fodder cultivation.⁴⁶ This pattern is not confined to Tebtunis, but is also found among other first- and early second-century leases from the Fayyum.⁴⁷

The prodromatic leases have prompted considerable academic debate: it is sometimes suggested that the advance payment of rent means that the contract was in effect a concealed loan rather than a 'genuine' lease.⁴⁸ Certainly some cases appear to have been motivated primarily by the financial need of the lessor, particularly when rent was paid several years in advance, or the lessor remained responsible for part of the agricultural work.⁴⁹ But, among leases of a single year's duration, it is not clear that this was always the sole, or the main, consideration; a public tenant in financial distress would surely have achieved a better return by leasing his land for wheat, not fodder, cultivation. Agricultural considerations may, therefore, also have played a part: perhaps the flood conditions of a particular year made the land unsuited to wheat, or the public farmer wished to rest the land from wheat for a year, and therefore leased it to someone who wished to cultivate fodder. The fact that seed was regularly supplied by the tenant in prodromatic leases of fodder again need not reflect the landlord's indigence, since a landlord who did not customarily grow fodder would not have seed available.

There was a large demand for fodder in Roman Egypt (to 'fuel' the donkeys and camels who provided transport, as well as to feed flocks of sheep and goats),

⁴⁶ Not obviously reflected in the grapheion entries, which Toepel (1973), 145, argues often do not explicitly label prodromatic leases.

⁴⁷ See Hennig (1967), 201–16, 223–8; cf. the similar Oxyrhynchite leases *P. Oxy.* IV 730, 810.

⁴⁸ A view vehemently denied in *P. Batav.* 17 line 21 note; see also Herrmann (1958), 229–35; Toepel (1973), 142–52; Hennig (1967), 36–41.

⁴⁹ e.g. *P. Mich.* II 121 recto I xiv; *SB XIV* 11487 (= *P. Tebt.* II 441 re-edited).

and prices seem to have been volatile.⁵⁰ One reason for demanding rent in advance on a fodder crop may simply have been the difficulty of predicting a reasonable market rent nine months later; dispute would be less likely to arise over a sum already paid. Prodomatic leases unfortunately do not record what rent was paid, merely that it had been received. We therefore cannot assess whether the lessors were receiving good value for their land. The terminology strongly implies that it was a money rent, which was in any case the most usual form of rent on fodder crops.⁵¹ Small-scale farmers, such as tenants of public land, even if operating close to a 'subsistence economy', would need some money to pay capitation taxes. The prodomatic fodder leases would provide this through a form of credit, although one which did not necessarily denote impending financial catastrophe on the lessor's part, but may rather have represented a sensible exploitation of the conventions of rent payment to obtain maximum economic benefit.⁵²

To summarise, various different purposes can be suggested for the prodomatic leases, and more specifically, those of fodder crops on public land. Some were evidently primarily motivated by the lessor's need for what was in effect a loan; in other cases, financial concerns may have had some part among other considerations. But close examination shows the variation of detail behind the apparent homogeneity of the documents; the prodomatic leases, like other forms of lease, were immensely flexible in meeting the individual requirements of each lessor and lessee.

The remainder of this paper will look at how other groups of leases which can be identified in the Tebtunis evidence, some overlapping with the prodomatic leases already discussed, exemplify the varied roles of agricultural tenancy in the context of the village. We may begin with the remaining leases of public land. Although most public land was held from the state without written contract, some (particularly difficult?) plots were subject to individual written leases made between local government officials and individual tenants.⁵³ In addition, the *presbuteroi* of the public farmers had collective responsibility for leasing out pasture land.⁵⁴ Some other leases of public land or public temple land are in effect transfers of tenancy, in that the rent consisted either entirely or mainly of the dues payable on the land by the primary tenant.⁵⁵ The duration of these leases was either unusually long (ten years or more), or unspecified, being until the next reallocation of public land among the farmers. Although it was possible for one

⁵⁰ *P. Tebt.* II 423; cf. Rowlandson (1996), 21–2.

⁵¹ Usually 'phoros', the standard term for money rent, but sometimes 'time' ('price'): e.g. *P. Mich.* II 121 recto col. I v; *P. Mil. Vogl.* IV 239. Money rents may have applied in prodomatic leases even on cereal crops; see *P. Mich.* II 121 recto II vi.

⁵² Cf. note 71 below.

⁵³ *P. Tebt.* II 325, 374.

⁵⁴ *P. Mil. Vogl.* II 105, V 313.

⁵⁵ *PSI X* 1143, *P. Tebt.* II 311, 373, 376.

farmer of public land to transfer his parcel to another through a contract of *ekchoresis* (cession),⁵⁶ it was perhaps more straightforward, more secure, or simply more normal, to use the flexible *misthosis* instead.

The bulk of our second-century evidence, concentrated around the 'archives' of the 'Laches' estate, the family of Kronion and that documented in *P. Fam. Tebt.*, provides a significantly different picture of the role of leasing from those already discussed, one closer to the Oxyrhynchite material. The landed estate of the 'Laches Archive' was managed in part directly with paid labour (documented through numerous extensive accounts), and in part by tenancy (attested by a list of rents in kind as well as lease contracts and rent receipts).⁵⁷ Kehoe, in a useful detailed discussion of this material, sees tenancy primarily as a way to maximise the estate's scarce productive resources.⁵⁸ The landowners (members of the élite gymnasial class of the metropolis) did not merely lease out their own land, but also themselves undertook leases of further land (including some royal temple land), which was then subleased.⁵⁹

The leases from this estate demonstrate a clear pattern of rotation of wheat and fodder crops over four- or six-year periods, and it is here we find the highest wheat rents attested in leases from Greek and Roman Egypt, at up to 15 artabas per aroura (inclusive of seed). Such high rents suggest even higher yields (the leases show that the land was sown at the standard rate of one artaba per aroura), of about twentyfold if the tenant were to achieve any worthwhile return, equivalent to the highest yields attested by Ibn Mammati in the late twelfth century.⁶⁰ It must be remembered that these exceptionally high returns alternated with years of fodder cultivation when the landlord received a low money rent or even none at all.⁶¹ In these last cases, however, an ambiguity about which party had the right to dispose of the fodder crop is created by the existence of

⁵⁶ E.g. *PSI X* 1144.

⁵⁷ Accounts: see esp. *P. Mil. Vogl. VII passim*; list of rents: *P. Mil. Vogl. VI* 275; rent receipt: *P. Mil. Vogl. II* 54; leases: *P. Mil. Vogl. II* 63–5, 67, III 130–41, VI 268–74. Some leases survive in duplicate copies.

⁵⁸ Kehoe (1992), 74–92.

⁵⁹ *P. Mil. Vogl. II* 56, VI 274.

⁶⁰ Cooper (1973), 114–15; the density of sowing ($\frac{2}{3}$ to 1 *irdabb* per *feddan*) might be higher than in the Roman period: the *feddan* was 1.5 *arouras*, but the *irdabb* was apparently over twice the volume of the Roman *artaba* (c. 40 litres), at least in the 14th century (Cooper (1973), 136, n. 85: c. 90 litres).

⁶¹ No rent: *P. Mil. Vogl. III* 138–9, 140 (both with 14 art. per ar. net on the wheat crop); cf. *P. Mil. Vogl. III* 106, VI 286 (archive of Kronion), VI 289. In *P. Mil. Vogl. III* 132–3, two parcels were rented respectively on the following terms:

Years	Crops	3½ ar. at Kerkesis	7½ ar. at Kerkesephis
1 and 3	½ any crop except wheat/ ½ <i>chortos</i> for grazing cattle	40 dr. per ar.	20 dr. per ar.
2 and 4	wheat	15 art. per ar. inc. seed	12 art. per ar. inc. seed

Here, at least, the higher rents, in both kind and money, are charged on the same plot; the higher rent in kind is not a compensation for a lower money rent.

further instances where, instead of receiving rent, the landlord paid a token sum of four drachmas to the tenant for his labour.⁶² Which party obtained the crop in these cases? If the landlord, then the tenants of the 'Laches' estate, far from being compensated in the fodder years for their high wheat rents, got a consistently raw deal.

A metropolitan family who in 133 obtained citizenship of Hadrian's new foundation of Antinoopolis is documented in *P. Fam. Tebt.* The varied texts in this archive reveal that, at various times, family members owned arable land at Tebtunis and at least six nearby villages, as well as vineyards; and houses at Tebtunis, the metropolis, and Antinoopolis. The few leases which survive among their papers look less than fully representative of the family's regular pattern of land management, although it is interesting to see a one-year lease renewed by the same tenant exactly one year later to the day.⁶³ Perhaps this family relied more on direct cultivation than on leasing, or simply threw away its leases on expiry. In general, however, there is ample evidence from Tebtunis that, as at Oxyrhynchus, the metropolitan landowning class managed to derive impressively high returns from the land they leased to local villagers under a system of crop rotation.⁶⁴

The archive of Kronion offers a different perspective on the landowning elite, showing how a village family with little land of its own struggled to maintain economic independence of the wealthier metropolitan class.⁶⁵ The men of the family were both farmers and minor priests of the temple at Tebtunis, but after 35, when Cheos father of Kronion the elder sold a plot of sacred land, none are known to have owned land. Kronion's daughters Taorsenouphis and Tephorsais together possessed over 20 arouras, attested only through antichretic loans (with usufruct in lieu of interest) and prodomatic leases which are certainly indicative of financial difficulty.⁶⁶ Although we cannot be certain that the family owned no further land, it is perhaps unlikely, given the scale of their indebtedness to several wealthier families, and their apparent need to take further land on lease. The most consistent tenancy related to the 12½ arouras of arable land and another

⁶² *P. Mil. Vogl.* II 65 (with 13 art. per ar. net on the wheat); III 130-1 (with 10 and 12 art. per ar. net on the wheat); III 135; III 137 (with 12 art. per ar. net of barley on the barley crop).

⁶³ *P. Fam. Tebt.* 44, 45. *P. Fam. Tebt.* introduction, 12-13, summarises information on the family property.

⁶⁴ See Taotion and family discussed above; the various landlords of Kronion's family (see below); *P. Mil. Vogl.* VI 288, 290. The pattern is already evident early in the 1st century: *P. IFAO* I 1, *P. Mich.* XII 633 (where a net rent of 7½ art. of wheat per ar. was charged on 5 ar. under half wheat and half another crop).

⁶⁵ Cf. *P. Kronion*, introduction; Kehoe (1992), 149-54; Lewis (1983), 69-73.

⁶⁶ *P. Kronion* 10, 17, 18, 19+19a (prodomatic lease for a total of 17 years), 20. I do not understand how *P. Kronion* introd. p. xxv arrives at a total of only c.17 ar., although some of the parcels may overlap and not all need have been owned simultaneously.

12½ arouras of pasture near Kerkesis which Kronion the elder and later his sons Kronion and Harpaesis, and grandson Sasopis, loyally leased from Eirene and her son Asklepiades over at least forty years, despite interruptions due to flooding.⁶⁷ When ownership passed to a different family, however, the younger Kronion withdrew from the tenancy.⁶⁸ Other land, too, was taken on lease, and some then subleased to others.⁶⁹ Although the family was clearly not destitute (the men performed minor public services), they were perhaps better archivists than economic managers: Kronion the younger managed to run up a debt of 1,800 drachmas (at interest) while working as bailiff (*phrontistes*) of Diogenis, the sister of one of his father's landlords.⁷⁰ But we can see from parallel cases (particularly that of Soterichos of Theadelphia) that it was quite normal for tenants regularly to finance the year's agricultural work with short-term loans; this led to financial crisis only if unforeseen circumstances prevented repayment annually after the harvest.⁷¹

Finally, one surprising feature of the leases from Tebtunis is the occurrence of several female tenants. In general, although female landlords appear in around one-quarter of leases, female tenants are very rare indeed; for instance, no female tenants are found in 144 leases surviving from Oxyrhynchus between 100 BCE and 400 CE. Although we know that some women did actively engage in agricultural management or labour, there was certainly a prevalent view that women were incapable of undertaking such roles, despite their widespread ownership of property and involvement in loans and other financial transactions.⁷² The general absence of female tenants can therefore be seen as an indication that tenants had a genuinely practical, and not merely financial, interest in the land they leased. In contrast, the Tebtunis leases with female tenants appear on other grounds as clear cases for an overriding financial motivation; they include the prodomatic lease by which Taorsenouphis daughter of Kronion received from Ammonille rent in advance for eight, and then a further nine, years.⁷³ From the grapheion register for 45/6, of nine lease entries with female tenants, five (all

⁶⁷ Documented by numerous leases, lease withdrawals, and rent and tax receipts, all published in *P. Kronion*.

⁶⁸ *P. Kronion* 45 (150). The principle 'sale breaks hire' did not apply in Egypt, but clearly one or both parties felt an urgent need to terminate the lease although Kronion had already sown the land.

⁶⁹ *P. Mil. Vogl.* VI 286; *P. Kronion* 26, 35, 38, 46.

⁷⁰ *P. Kronion* 16; cf. 35. Kronion the younger was evidently a 'bad lot', virtually cut out of his father's will, and divorced from his marriage to his sister Taorsenouphis (*P. Kronion* 50, 52). I see no need to invoke a personal relationship with Diogenis in explanation (cf. Lewis, (1983), 73); ill-treatment of his father and financial profligacy are surely sufficient.

⁷¹ Bagnall (1980).

⁷² Rowlandson (1996), 263–4; Hobson (1983). There were female agricultural labourers on the 'Laches estate': *P. Mil. Vogl.* VII 302.

⁷³ *P. Kronion* 19+19a; cf. 10, prodomatic lease by Kronion the elder to Helene daughter of Herodes.

prodomatic) involved the same woman: Didyme, also known as a creditor in other transactions.⁷⁴

In conclusion, at Tebtunis we find leases made for land of every tenurial category — private, public, sacred, imperial, even Alexandrian — and every type of crop: arable, pastoral or fruit trees. We can also see that all significant sections of the population were on occasion involved in leasing land, whether as landlords, tenants or both. But different groups employed this same basic form of legal contract for different purposes. As at Oxyrhynchus, wealthier metropolitan families regularly derived a good, and relatively risk-free, income from leasing out land, using crop rotation to push rents (in the wheat years) to remarkably high levels. In some cases at least (most notably the 'Laches estate') this did not exclude the use of direct management using paid labour for other parts of their property. Relatively durable associations between particular landlords and tenants were fostered by longer lease terms (four years or more) and renewals, but village tenants seem to have managed to escape economic dependence on a single landlord by being simultaneously connected, through obligations of tenancy and credit, to as many different families as possible.

The villagers of Tebtunis appear in our lease contracts not only as tenants of the metropolitans, but under some circumstances acting as landlords themselves, a role which remains undocumented by the Oxyrhynchite evidence. *Misthosis* contracts enabled the elders of the public farmers to manage the pastures under their control, and holders of sacred or public land to transfer responsibility to others. Individual public farmers subleased their parcels for fodder cultivation in one-year contracts; it is difficult to generalise about their motivation, whether it was primarily agricultural or financial, or a mixture of both. Certainly financial need was the stimulus in some cases where villagers acted as lessors of land which they either owned or, more commonly, themselves held on lease; the uncustomary incidence of several female tenants reflects this. In prodomatic leases, the rent paid in advance (occasionally several years in advance) served in effect as a loan, although this does not mean that contracts of this type were necessarily concealed loans without any agricultural purpose.

The *misthosis* contract was a remarkably flexible legal arrangement, adaptable to the varied requirements of all groups in the agrarian society of Roman Egypt. The leases are thus an extraordinarily rich source for a detailed examination of the conditions and relationships of that society. Nevertheless, they do not document all its aspects in equal measure, and we must remain alert to the areas of distortion or silence. For instance, except in the leases which provide for rotation between the staple cereal and fodder crops, there seems much less reference to wheat than we should expect within the overall agricultural regime of

⁷⁴ See Hobson (1984), 386.

Tebtunis. The explanation for this silence lies partly in conventions of expression (the grapheion registers may overlook wheat precisely because of its 'normality'), but must also partly result from the uneven documentation of different aspects of agricultural activity. The regular routine of wheat cultivation by villagers, whether peasant proprietors, priests or public farmers, carried out directly by their own labour (*autourgia*), leaves no written documentation. On such land, we have little basis for judging what yields the villagers might typically expect, but can guess that it fell considerably short of the spectacular yields implied by the leases from the intensive regime on the 'Laches estate'.

For the same reason, we must hesitate before adducing the sharp drop in average rent levels after the second century⁷⁵ to support the idea that all the peripheral villages around the Fayyum suffered terminal decline during late antiquity. The documentation is selective and capricious—the papyrological discoveries of a single man, Achille Vogliano, significantly affect our impression of the viability of tenancy during the second century, not only in Tebtunis, but in the Fayyum as a whole, and it may be just chance that no comparable third-century evidence survives from anywhere in the Fayyum.⁷⁶ Scarcely any land leases, or indeed other documents, survive from Tebtunis after the early third century, yet other evidence shows that it remained an important centre even after the Arab conquest, until finally abandoned by the thirteenth century.⁷⁷ Although we can no longer trace the place of agricultural tenancy in the life of the village after the second century, there remained fields to be cultivated and farmers to cultivate them.

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BIBLIOGRAPHY

- R. and R. D. Alston (1998), 'Urbanism and the urban community in Roman Egypt', *JEA* 83, 199–216
- R. S. Bagnall (1980), 'Theadelphia archives: a review article', *BASP* 17, 97–104
- R. S. Bagnall (1995), *Reading Papyri, Writing Ancient History*
- W. S. Bagnall, (1974), 'The archive of Laches: prosperous farmers of the Fayyum in the second century', (Diss. Duke University)
- G. Botti, (1957), 'Papiiri demotici dell'epoca imperiale da Tebtynis', in *Studi Calderini-Paribeni* II, 76–86
- A. K. Bowman, D. W. Rathbone (1992), 'Cities and administration in Roman Egypt', *JRS* 82, 107–27

⁷⁵ Hennig (1967); 26–8; Drexhage (1991), 162–3.

⁷⁶ Quite why the Heroninos Archive from Theadelphia contains so little evidence of agricultural tenancy is an interesting question; Rathbone (1991), 183–8.

⁷⁷ Gallazzi (1994).

- W. Clarysse, C. Gallazzi (1993), 'Archivio dei discendenti di Laches o dei discendenti di Patron?', *AncSoc* 24, 63–8
- R. Cooper (1973), 'Ibn Mammati's rules for the ministries', (Diss. California)
- D. J. Crawford (1971), *Kerkeosiris: An Egyptian Village in the Ptolemaic Period*
- H.-J. Drexhage (1991), *Preise, Mieten/Pachten Kosten und Löhne im römischen Ägypten bis zum Regierungsantritt Diokletians: Vorarbeiten zu einer Wirtschaftsgeschichte des römischen Ägypten I*
- S. Eitrem (1937), 'A few remarks on σπονδή, θάλλός and other extra payments in papyri', *SymbOsl* 17, 26–48
- C. Eyre (1994), 'Feudal tenure and absentee landlords', in S. Allam (ed.), *Grund und Boden in Altägypten (Rechtliche und sozio-ökonomische Verhältnisse)*, 107–33
- C. Gallazzi (1990), 'La "Cantina dei Papiiri" di Tebtynis e ciò che essa conteneva', *ZPE* 80, 283–8
- C. Gallazzi (1994), 'Tebtonis: piecing together 3,000 years of history', *Egyptian Archaeology* 5, 27–9
- C. Gallazzi, G. Hadji-Minaglou (1989), 'Fouilles anciennes et nouvelles sur le site de Tebtunis', *BIFAO* 89, 179–202
- F. Gomaà, R. Müller-Wollermann, W. Schenkel (1991), *Mittelägypten zwischen Samalat und dem Gabal Abu Sir: Beiträge zur historischen Topographie der pharaonischer Zeit (TAVO Beihefte ser. B no. 69)*
- A. E. Hanson (1991), 'Ancient illiteracy,' in *Literacy in the Roman World (JRA Supplement 3)*, 159–98
- D. Hennig (1967), *Untersuchungen zur Bodenpacht im ptolemäisch-römischen Ägypten*
- D. Hennig (1972), 'Die Arbeitsverpflichtungen der Pächter in Landpacht-verträgen aus dem Faijum', *ZPE* 9, 111–31
- J. Herrmann, (1958), *Studien zur Bodenpacht im Recht der graeco-ägyptischen Papyri (Münchener Beiträge zur Papyrusforschung und Rechtsgeschichte 41)*
- D. W. Hobson (1983), 'Women as property owners in Roman Egypt', *TAPA* 113, 311–21
- D. W. Hobson (1984), 'The role of women in the economic life of Roman Egypt: a case study from first-century Tebtunis', *Studies in Roman Society = EMC* 28 n.s. 3, 373–90
- M. K. Hopkins (1991), 'Conquest by book', in *Literacy in the Roman World (JRA Supplement 3)*, 133–58
- F. W. Jenkins (1992), 'New texts from the Tebtunis grapheion archive', *BASP* 29, 31–40
- D. Kehoe (1992), *Management and Investment on Estates in Roman Egypt During the Early Empire*
- J. Krüger (1990), *Oxyrhynchos in der Kaiserzeit: Studien zur Topographie und Literaturrezeption*
- N. Lewis (1983), *Life in Egypt under Roman Rule*
- R. Muth (1994), 'Real land rentals in early Roman Egypt', *Explorations in Economic History* 31, 210–24
- C. A. Nelson (1979), *Status Declarations in Roman Egypt (ASP 19)*
- D. W. Rathbone (1990), 'Village, land and population in Graeco-Roman Egypt', *PCPhS* n.s. 36, 103–42
- D. W. Rathbone (1991), *Economic Rationalism and Rural Society in Third-Century AD Egypt: The Heroninos Archive and the Appianus Estate*
- D. W. Rathbone (1996), 'Monetisation, not price-inflation, in third-century AD Egypt?', in C. E. King and D. G. Wigg (eds), *Coin Finds and Coin Use in the Roman World:*

The Thirteenth Oxford Symposium on Coinage and Monetary History, 321–39

- D. W. Rathbone (1996), 'Towards a historical topography of the Fayyum', in D. M. Bailey (ed.), *Archaeological Research in Roman Egypt: Proceedings of the XVII British Museum Classical Colloquium*, 50–6
- J. Rowlandson (1996), *Landowners and Tenants in Roman Egypt: The Social Relations of Agriculture in the Oxyrhynchite Nome*
- L. R. Toepel (1973), 'Studies in the administrative and economic history of Tebtunis in the first century AD', (Diss. Duke University)
- E. G. Turner (1980), *Greek Papyri: An Introduction* (2nd edn)
- S. Waszynski (1905), *Die Bodenpacht: Agrargeschichtliche Studien I: Die Privatpacht*