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Dennis Kehoe

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Deutsches Archäologisches Institut, Zentrale, Podbielskiallee 69–71, 14195 Berlin, Tel: +49 30 187711-0

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DENNIS KEHOE

## Allocation of Risk and Investment on the Estates of Pliny the Younger

Upper-class Roman landowners in early imperial Italy increasingly derived their wealth from estates divided into tenancies.<sup>1</sup> Thus an important question for understanding the economic history of the early empire concerns how Roman landowners managed estates organized in this way, especially when they were scattered geographically. The general lack of evidence for ancient agriculture makes the analysis of relationships between Roman landlords and tenants difficult. Indeed, one of the most important sources for examining tenancy in Roman Italy, the Digest (especially section 19.2 on *locatio-conductio*), can provide only a partial answer to this question. The legal responses compiled in the Digest develop an idealized model of a normative farm lease, designed as a legal concept to facilitate the adjudication of cases in the real world. It is not clear, however, what the relationship is between this idealized model and the actual conditions of Italian farm tenancy, so that the Digest cannot be considered to describe either actual historical conditions or the dynamic relationships between landlords and tenants.<sup>2</sup>

An invaluable source of evidence for analyzing the relations between at least one Roman landowner and his tenants, however, is offered by the published

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<sup>1</sup> For the organization of Roman estates during the early principate, see TH. MOMMSEN, *Die italische Bodenteilung und die Alimentartafeln*, *Hermes* 19, 1884, 393–416; cf. W. E. HEITLAND, *Agricola*, Cambridge 1921, 203–12; B. W. FRIER, *Law, Technology, and Social Change: The Equipping of Italian Farm Tenancies*, *ZRG* 96, 1979, 213–15. On the autonomous *fundus* within a larger estate, see A. STEINWENTER, *Fundus cum instrumento*, Wien – Leipzig 1942, especially 10f., 24f.; cf. more recently, P. W. DE NEEVE, *Fundus as Economic Unit*, *RHD* 52, 1984, 3–19. For definition of the term *latifundia*, see K. D. WHITE, *Latifundia*, *BICS* 14, 1967, 62–79, with A. J. L. VAN HOOFF, *Some more Latifundia*, *Historia* 31, 1982, 126–28; on their formation, cf. MOMMSEN, and F. G. DE PACHTÈRE, *La table hypothécaire de Veleia*, Paris 1920, 78–97. For a survey of the archaeological evidence for Roman estates, see K. GREENE, *The Archaeology of the Roman Economy*, Berkeley – Los Angeles 1986, 88–94, 103–09.

<sup>2</sup> On the normative Italian farm-lease, see FRIER, *ZRG* 96, 1979, 204–28, who discusses farm lease the *colonus* in the legal sources as a «legal type» 226 note 112, and J. KÖHN, in K.-P. JOHNE, J. KÖHN, V. WEBER, *Die Kolonen in Italien und in den westlichen Provinzen des römischen Reiches*, Berlin 1983, 183–244. On the legal principles of *locatio-conductio rei*, see M. KASER, *Das römische Privatrecht*<sup>2</sup>, München 1971, 1.565–68.

correspondence of Pliny the Younger. Pliny discusses in several letters problems besetting his estates, in particular the chronic indebtedness of his tenants, and he moreover describes his long-term solution, the institution of sharecropping as the system of land tenure on several of his estates.<sup>3</sup> Pliny's letters thus not only attest the nature of some of the problems affecting Roman agriculture in general, but more significantly, because they chronicle how Pliny addressed these problems, they provide evidence for the way in which such a Roman landowner formulated economic goals and for the means that he had to achieve them.

## I

Pliny provides the clearest indication of his economic goals in investing in land when he discusses in ep. 3.19 the possible purchase of an estate adjoining one that he already owned at Tifernum Tiberinum.<sup>4</sup> In a letter dated to ca. AD 100, Pliny sought the advice of Calvisius Rufus, an equestrian friend from Comum, whom Pliny consulted for business advice on other occasions as well.<sup>5</sup> Pliny was first drawn to purchase the estate by the sheer attraction of adjoining estates (3.19.2), but cautiously weighed the economic benefits of reducing his managerial costs against the risks of investing too much of his wealth in a single geographic area, thereby increasing his vulnerability to the dangers imposed by climate (3.19.2-4). Pliny could maintain a single *villa* and manage both properties through the same *procurator* (or business manager) and the same *actores* (bailiffs, 3.19.2).<sup>6</sup> But the focus of Pliny's considerations concerned the ability of the estate to provide him with an income. The estate was attractive as farmland, consisting of fertile grain-fields, vineyards and forest, the last of which provided an

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<sup>3</sup> For Pliny's agricultural holdings, see especially R. DUNCAN-JONES, *The Economy of the Roman Empire*, Cambridge 1982, 19-24. Pliny owned estates at Tifernum Tiberinum, as well as several estates and *villae* near Comum. He also owned a seaside villa at Laurentum and several residences in Rome. Pliny's estates may have been worth HS 17,000,000 (DUNCAN-JONES 20); his Tuscan estates produced an annual rent of HS 400,000 in AD 98 (10.8.5). At HS 1,000 for each *iugerum* of land (see Columella 3.3.8), Pliny would have owned on the order of 17,000 *iugera* or 4,250 ha.

<sup>4</sup> On the identification of this property, see A. N. SHERWIN-WHITE, *The Letters of Pliny, A Historical and Social Commentary*, Oxford 1966, 254, and DUNCAN-JONES, *Economy*, 20.

<sup>5</sup> The letter cannot be dated precisely; see SHERWIN-WHITE, *Commentary*, 253. On Calvisius Rufus (PIR<sup>2</sup> C 349), see *ibid.* 202. Pliny also consulted Calvisius on legal problems arising from an inheritance (5.7), and on his method for granting relief to *negotiatores* who purchased his vintage (8.2).

<sup>6</sup> The *actores* apparently fulfilled the same function as *vilici*, since several texts seem to use these terms interchangeably: Columella 1.7.6-7, 1.8.5; Scaev. Dig. 20.1.32, 34.4.31 pr. See S. GSELL, *Esclaves ruraux dans l'Afrique romaine*, Mélanges Gustave Glotz, Paris 1932, 409 and notes 5-6, and N. BROCKMEYER, *Arbeitsorganisation und ökonomisches Denken in der Gutswirtschaft des römischen Reiches*, Diss. Bochum 1968, 154; for a different interpretation, see SHERWIN-WHITE, *Commentary*, 254.

additional modest but steady return (3.19.5). Pliny however hesitated to purchase this otherwise attractive property because of the chronic indebtedness of the tenants cultivating it. The tenants had apparently fallen behind in their rent, and to relieve this indebtedness, the previous owner had confiscated the pledges of the tenants. Pliny's intention of re-equipping these tenants with slaves indicates that the pledges included slaves (3.19.7). The action of the previous owner unfortunately had proved short-sighted. Confiscation of the pledges relieved the tenants of their immediate debt, but made them unable to cultivate their land productively, so that their indebtedness only grew more severe. In order to make the estate productive again, Pliny faced the prospect of providing slaves for these tenants at his own expense (3.19.6-7):<sup>7</sup> *nam possessor prior saepius vendidit pignora, et dum reliqua colonorum minuit ad tempus, vires in posterum exhausit, quarum defectione rursus reliqua creverunt. sunt ergo instruendi, eo pluris quod frugi, mancipiis; nam nec ipse usquam vinctos habeo nec ibi quisquam.* Pliny's discussion of the poor conditions on this estate reveals how as a landowner he characteristically depended for his income on the production of tenants. The estate may have included a central farm attached to the *villa*, but the bulk of the land appears to have been divided among a number of tenancies.<sup>8</sup> The production of these tenants was so important that their continuing problems made Pliny hesitate to purchase the estate, even though it had a convenient location for selling produce at Rome (cf. 5.16.12), and even though its price had plunged from five to three million sesterces (3.19.7). The tenants thus occupied substantial farms, since slaves were required to work them.<sup>9</sup> Pliny tells us little about how he equipped the farms that he leased out, but the need to re-equip the tenants on this estate with slaves indicates that they made a substantial contribution of capital. Based on the analogy of the normative Italian farm lease as formulated in the Digest, these tenants furnished the moveable capital; draft animals were probably included along with slaves in this

<sup>7</sup> The *servi frugi* correspond to the *servi soluti* discussed by Columella (1.6.3), who are to be contrasted with the chained slaves housed in an *ergastulum*; see as SHERWIN-WHITE, Commentary, 257.

<sup>8</sup> SHERWIN-WHITE, Commentary, 255 postulates the existence of a central farm, and argues that the vintage which Pliny sold to the *negotiatores* in ep. 8.2 constituted the produce from the central farm of his Tuscan estates (449). Cf. also K. D. WHITE, Roman Farming, Ithaca 1970, 406-09, FRIER, ZRG 96, 1979, 219 note 79, and P. W. DE NEEVE, *Colonus*, Amsterdam 1984, 165-67. An inscription from Pola near Histria indicates the presence of a *vilicus* and a slave *colonus* on the same estate: V. WEBER, in Kolonen, no. 20. WEBER no. 19, from the same location, mentions an *adiutor coloni*.

<sup>9</sup> T. FRANK, An Economic Survey of Ancient Rome 5: Rome and Italy of the Empire, Baltimore 1940, 179 note 59 compares Pliny, ep. 7.30.3, which refers to *conductores*, and argues that Pliny envisioned leasing the whole estate in 3.19 to large-scale tenants, akin to the *conductores* on North African imperial estates. But the term *conductores* in 7.30.3 simply refers to tenants, and does not presuppose any scale of operation.

capital.<sup>10</sup> The tenants in 3.19 also pledged this moveable capital as security for the rent and the fixed capital, as was characteristic of the Italian farm lease.<sup>11</sup> In this system of leasing the landlord by contrast was legally obliged to provide, if the tenants could not already do so, all the fixed capital required to make the tenancy productive, including buildings, storage facilities, and wine or olive presses (cf. Ulp. Dig. 19.2.19.2).<sup>12</sup> Evidence from this and other letters moreover indicates that Pliny's tenants otherwise occupied their land under lease terms similar to those formulated in the Digest, leasing their farms for fixed five-year terms (9.37.2, 10.8.5),<sup>13</sup> and paying a cash rent (9.37.3, 10.8.5).<sup>14</sup>

<sup>10</sup> For the use of slaves by *coloni*, see FRIER, ZRG 96, 1979, 217–18. The *urbanus colonus* mentioned by Columella (1.7.3; see below at note 53) farmed through the labor of his *familia*. Several legal sources also refer to slaves belonging to *coloni*: Alfenus Dig. 19.2.30.4, Proculus apud Ulp. Dig. 9.2.27.11 (= Coll. 12.7.9), Neratius apud Ulp. Dig. 9.2.27.9 (= Coll. 12.7.11), Jul. Dig. 43.33.1 pr., and Labeo apud Ulp. Dig. 7.8.12.6. There is some epigraphical evidence for slaves belonging to *coloni*. ILS 7455 (CIL IX 3674, WEBER, in Kolonen no. 5, Pescara, Marsia) and ILS 7455 a (CIL IX 3675, WEBER no. 6) indicate a *familia* belonging to a freedman, characterized as *colono fundi Tironiani*, while CIL IX 5659 (WEBER no. 12, Trea, Picenum) records a dedication by *familia* of freedpersons belonging to a *colonus*. Cf. also WEBER no. 17 from Aquileia, a dedication to freedmen and freedwomen by an [-O]fellenus P.f./colonus, where *colonus* however may be a cognomen. For further discussion of these inscriptions, see WEBER 277–79.

<sup>11</sup> On the pledging of the tenant's property, cf. Cato, de agr. 146.2, 149.2, 150.2. FRIER, ZRG 96, 1979, 220–21 discusses the legal principles concerning pledges in farm leases, with sources, especially Labeo Dig. 20.6.14, Gaius Dig. 20.4.11.2. The tenant characteristically contracted to pledge whatever property he brought into his tenancy (*invecta*) as security for the rent; a mid second-century legal source, Africanus Dig. 47.2.62.8 implies that crops were customarily pledged as security. Jul. Dig. 43.33.1 pr. refers to the pledging of an *ancilla*. See also W. SCHULLER, Zum «Pignus Tacitum», Labeo 15, 1969, 268–84, and KÖHN, in Kolonen, 202–07.

<sup>12</sup> On the legal norms for the contribution of capital in the Italian farm lease, see FRIER, ZRG 96, 1979, 204–28, and KÖHN, in Kolonen, 199–202. Clearly a wide range of contractual arrangements might exist between landlord and tenant; see STEINWENTER, Fundus cum instrumento, 29–32; and FRIER 217 and note 67. Several legal texts refer to the practice whereby the tenant received his *instrumentum* from the landlord on the basis of an *aestimatio venditionis causa*: Pompon. Dig. 19.2.3, Paul. Dig. 19.2.54.2 (5 Resp.); cf. Papin. Dig. 46.1.52.2 (11 Resp.); on this form of leasing see STEINWENTER 31, FRIER 217 and note 68, and KÖHN 201–02. Paul. Dig. 33.7.24 (3 ad Nerat.) envisions the possibility that the tenant provided all the *instrumentum*.

<sup>13</sup> SHERWIN-WHITE, Commentary, 519–20, argues that Pliny leased out his Tuscan estates on four-year cycles. Pliny instituted sharecropping on his Tuscan estates in 107 (9.37; for the date see SHERWIN-WHITE 518), and had referred to arranging new leases for these same estates in 10.8.5, which SHERWIN-WHITE 571–73 dates to the summer of 99. But Pliny in 107 may have anticipated the expiration of his tenants leases in order to institute sharecropping; it is also possible that not all the leases on a given estate expired the same year. Cf. also V. A. SIRAGO, L'Italia agraria sotto Traiano, Louvain 1958, 107–10.

<sup>14</sup> Landlords might also collect the rent on a share basis; in addition to Pliny, ep. 9.37, see Gaius Dig. 19.2.25.6, Paul. Dig. 47.2.26.1; cf. Cato, de agr. 137, with BROCKMEYER, Arbeitsor-

Pliny's caution in purchasing the otherwise attractive estate at Tifernum Tiberinum reveals an attitude similar to the one that P. VEYNE has traced as underlying upper-class Roman investment in land. VEYNE argues that upper-class Romans viewed investment in land as the strongest protection against any risk that might threaten their ability to maintain a standard of living befitting their class.<sup>15</sup> For such absentee landowners the dependability of a yearly income with a minimum of risk was an overriding concern. Thus Pliny applauds the regular income that the forest land on the estate at Tifernum Tiberinum might provide: ... *silvis, quae materiam et ex ea reditum sicut modicum ita statum praestant* (3.19.5).<sup>16</sup> Pliny moreover judged his own financial well-being as much by the steadiness of his income as by its size, as he describes in a letter to a woman whose father's debts he had excused (2.4.3): *sunt quidem omnino nobis modicae facultates, dignitas sumptuosa, reditus propter condicionem agellorum nescio minor an incertior* ... Finally, while describing the suitability of his villa at Laurentum for literary production, Pliny uses the metaphor of steady income from an estate as if it were a cliché (4.6.3): *si certa et fructuosa praedia concupiscis* ...

As an absentee landowner, Pliny's interest in a risk-free income from his estates made him little different from several of his correspondents, who, having neither the energy nor the expertise to manage their own financial affairs, sought Pliny's advice in matters concerning the management of their estates. A good example of this type of landowner is the literary figure Suetonius Tranquillus, on

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ganisation, 83–86, and DE NEEVE, *Colonus*, 201–11; for further discussion of sharecropping in Roman sources see E. BALOGH, *Zur Auslegung einer Tacitusstelle: De Origine et Situ Germanorum Liber*, 24, in *Studi in onore di U. E. Paoli*, Florence 1956, 45 note 6, FRIER, *ZRG* 96, 1979, 225 note 108, and KASER, *RPR*<sup>2</sup> 1.566 and note 31. The *politor* who received his compensation on a share basis in Cato 136 seems to have been a temporary laborer hired to bring in the harvest rather than a share tenant: BROCKMEYER 81–83, DE NEEVE 202–03; cf. H. GUMMERUS, *Der römische Gutsbetrieb*, *Klio Beih.* 5, Leipzig 1906, 31–33. Rents in Italy might also be assessed as fixed payments in kind (CJ 4.65.8, AD 231), or as fixed amounts of crops valued at a previously arranged price (Ulp. Dig. 19.2.19.3).

<sup>15</sup> P. VEYNE, *Mythe et réalité de l'autarcie à Rome*, *REA* 81, 1979, 261–80. Cf. M. WEBER, *Die römische Agrargeschichte*, Stuttgart 1891, 231, and M. ROSTOVITZEFF, rev. P. M. Fraser, *SEHRE*<sup>2</sup>, Oxford 1957, 203. On the Roman concept of profit in estate-agriculture, see J. LOVE, *The Character of the Roman Agricultural Estate in the Light of Max Weber's Economic Sociology*, *Chiron* 16, 1986, 99–146. S. TREGGIARI, *Sentiment and Property: Some Roman Attitudes*, in A. PAREL/T. FLANAGAN (edd.), *Theories of Property, Aristotle to the Present*, Waterloo, Ont. 1979, 53–83 discusses non-economic factors affecting land ownership; cf. Cic., *de off.* 1.151. M. I. FINLEY, *The Ancient Economy*, Berkeley – Los Angeles 1973, 95–122, denies that ancient landowners pursued a consistent strategy in investing in land; cf. M. W. FREDERIKSEN, *Theory, Evidence and the Ancient Economy*, *JRS* 65, 1975, 168–69.

<sup>16</sup> For a comparable sentiment, see Cic., *de leg. agr.* 2.48, with A. AYMARD, *Les capitalistes romains et la viticulture italienne*, *Annales ESC* 2, 1947, 257–65; VEYNE, *REA* 81, 1979, 261–80, with additional references to the exploitation of forests (263), and A. TCHERNIA, *Le vin de l'Italie romaine*, Rome 1986, 121 f.; for Pliny, ep. 3.19.5, cf. P. VEYNE, *Autour d'un commentaire de Pline le Jeune*, *Latomus* 26, 1967, 729–30.

whose behalf Pliny wrote a letter urging one Baebius Hispanus to see that a friend selling an estate to Suetonius asks a fair price (1.24). This property included a villa providing a retreat for Suetonius to pursue his intellectual interests, but also included a productive part that would support Suetonius financially (1.24.3): *in hoc autem agello, si modo adriserit pretium, Tranquilli mei stomachum multa sollicitant, vicinitas urbis, opportunitas viae, mediocritas villae, modus ruris, qui avocet magis quam dstringat*. Suetonius' involvement in the agricultural side of his estate would only consist of walking around the grounds and inspecting his «little vines and trees» (1.24.4): ... *ut ... reptare per limitem unamque semitam terere omnesque viteculas suas nosse et numerare arbusculas possint*, but the presence of a productive side of the estate suggests that Suetonius required it as much for income as for a retreat.<sup>17</sup> Pliny also undertook to find managers for estates owned by several of his family connections. Thus he writes a letter of congratulations to a certain Verus for undertaking to manage a small estate that Pliny had given to his former nurse as a means of support (6.3). Likewise, Pliny reports to his aged grandfather-in-law Fabatus about his difficulty in finding a suitable manager for property owned by the latter in Campania (6.30); on another occasion Pliny inspected an estate owned by Fabatus at Ameria (8.20.3).<sup>18</sup>

Such individuals as a young man of letters, a nurse and a retired equestrian can hardly be expected to have played an active role in the management of their property, but other landowners more in a position to manage their affairs at least adopted a pose of disdainful interest for their estates. Thus Pliny on several occasions laments that the need to inspect his own estates and to pay attention to the petty troubles of his tenants distracted him from the loftier pursuits in which he engaged on his estates, namely the study of oratory and literature.<sup>19</sup> Likewise Pliny sympathizes with several of his correspondents who also had to waste in

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<sup>17</sup> For aristocrats aiding their connections in the purchase of land, see R. SALLER, *Personal Patronage under the Early Empire*, Cambridge 1982, 125. Suetonius' interests in his estate may be compared to those of the Bithynian philosopher Flavius Archippus (PIR<sup>2</sup> F216), for whom the emperor Domitian ordered an estate worth HS 100,000 to be purchased as a source of income (ep. 10.58.5). For gifts of farms to support poets, cf. Horace, epist. 1.14, Martial, epigr. 12.31, with SALLER 28 note 94; cf. P. WHITE, *Amicitia and the Profession of Poetry in Early Imperial Rome*, JRS 68, 1978, 86–91.

<sup>18</sup> Pliny sought managers for these estates rather than tenants; otherwise Pliny could hardly have expressed the wish that Verus' efforts would raise the value of the nurse's estate to its previous HS 100,000 and thereby also increase the rent that the estate provided (6.3.1). For a different view, see SIRAGO, *L'Italia agraria sotto Traiano*, 105, SHERWIN-WHITE, *Commentary*, 358, 390, and JOHNE, in Kolonen, 136–37.

<sup>19</sup> For the theme of business affairs on estates as distractions, cf. epp. 2.15.2, 4.6.2, 5.14.8, 7.30.3, 9.15.1, 9.20.2, 9.36.6. On Pliny's attitude toward agriculture, see further SIRAGO, *L'Italia agraria sotto Traiano*, 103–05, and R. MARTIN, *Pline le Jeune et les problèmes économiques de son temps*, REA 69, 1967, 88–93. In 8.15 Pliny views a poor vintage as providing himself and Terentius Iunior more time for reading and writing; cf. 9.16.

settling their financial affairs time that might have been better devoted to intellectual pursuits.<sup>20</sup> This expression of distaste for the affairs of his estates was somewhat of a pose for Pliny, who as we have seen took an active interest in the management of estates belonging both to himself and to others, but behind his pose stands a more general attitude of his class. Suetonius' immediate concern may have been for a small property with an income sufficient to support his literary pursuits, but his interests in his estates were not qualitatively different from those of Pliny. Both large and more modest landowners depended on their estates for an income, and both faced difficult problems in managing them in such a way as to provide steady long-term revenues with as little as possible risk and involvement on their own part.<sup>21</sup>

Theoretically, of course, landowners like Pliny gained a low-risk income and lowered costs of management by leasing their estates out as self-contained farms to independent farmers who paid a fixed rent in cash. Since Pliny was chiefly interested in obtaining a cash rent, he had little direct interest in how his tenants cultivated their land, as long as they returned the capital in good working order at the end of the lease.<sup>22</sup> In Roman law, maintenance of capital meant that the tenant had to carry out normal agricultural duties, *opera rustica*, whose timely execution was required for the maintenance of the farm's productivity (Gaius Dig. 19.2.25.3). But a landlord leasing on a cash-rent basis had no interest that his tenant apply any particular level of inputs in order to achieve a desired yield, leaving instead such decisions to the discretion of the tenant. Under such a system of tenancy, the primary function of the bailiffs was to enforce contractual obligations; such managers became involved in the actual cultivation of

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<sup>20</sup> Pliny consoles Caninius Rufus as *«unus ex multis»* for having to sacrifice to business matters time that he might have spent enjoying his villa (1.3.2); cf. 9.28.4, where Pliny anticipates that Voconius Romanus will be *fugitivum rei familiaris*. Other letters referring to non-economic activities on estates include 1.6, 1.9, 1.22.11, 2.2.2, 2.17, 4.23.4, 5.6, 6.10, 6.14.1, 6.16.8, 7.25, 8.1, 9.7, 9.10.

<sup>21</sup> For Columella increasing the *patrimonium* was an overriding concern of Roman landowners (1 pref. 7; cf. 1 pref. 10, 1.8.19, 3.3.7), which suggests that Columella was primarily interested in the long-term productivity of his estates. Cf. also Plut., *Cat. Mai.* 21.5–8, where Cato all the time sought to minimize his risk in the various business ventures in which he engaged in order to achieve this end.

<sup>22</sup> In Roman law, the tenant was liable to damage through his own fault to *instrumentum* furnished by the landlord: Neratius apud Ulp. Dig. 19.2.19.2; the tenant was apparently not responsible for damage to the capital on his tenancy caused by *vis* or resulting from *vetustas*: Alf. Dig. 19.2.30.4; cf. also Gaius Dig. 19.2.25.3–4, and Cato, *de agr.* 144.2. The tenant was required to maintain and protect woodland in his tenancy (Alf. Dig. 19.2.29, Gaius Dig. 19.2.25.5, 47.7.9, Paul. Dig. 12.2.28.6), while a *fructuarius* was required to maintain capital (Ulp. Dig. 7.1.13). On the tenant's duties, see KASER, RPR<sup>2</sup> 1.566 n. 34; FRIER, ZRG, 96, 1979, 209–10; KÖHN, in *Kolonen*, 207–26, and I. MOLNÁR, *Verantwortung und Gefahrtragung bei der locatio conductio zur Zeit des Prinzipats*, ANRW II 14, 1982, 620–40, especially 624–29.

the tenant's farm only in so far as they enforced the timely completion of the *opera rustica* required to maintain the farm in good condition.<sup>23</sup> The short duration of the Roman farm lease moreover suggests that the landlord had greater bargaining power than his tenants. Such leases thus afforded the landlord desirable flexibility, allowing him to enforce contractual obligations by dismissing an unsatisfactory tenant.<sup>24</sup> In practice, however, Pliny's relationships with the tenants on whose production he relied for his income were not so simple.

The first complexity in this arrangement concerned one of the chief methods that landowners like Pliny used to reduce their risk. Desiring to keep at a minimum risk arising out of investment in farm capital, landlords regularly sought to impose on the tenant as much as possible the costs of making improvements that would keep the estate productive year after year. This concern shows up in 3.19 in Pliny's hesitancy about re-equipping the tenants with slaves. Pliny was apparently averse to bearing risk arising out of substantial investment on his own part in farm capital. Thus the risk imposed by accumulating extensive holdings in a single geographic area was less important for Pliny than that imposed by the expensive purchase of slaves required to restore the estate to productivity.<sup>25</sup> Pliny's concern about the investment in slaves is surprising; the drastically reduced price should have made the estate a good buy, especially since its location near the Tiber gave it access to markets that helped make the region a productive one during the early empire. Indeed, Pliny mentions in a description of the villa on his existing estate at Tifernum Tiberinum that this estate was located on the Tiber, which allowed him to transport agricultural products into the city of

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<sup>23</sup> Requirements to perform crucial farm tasks in a timely manner are specifically provided for in Egyptian agricultural leases; see e. g. S. OMAR, *Das Archiv des Soterichos*, *Papyrologica Coloniensis* 8, Opladen 1979, nos. 1–4, and pp. 36–42; for general discussion, see D. HENNIG, *Die Arbeitsverpflichtungen der Pächter in Landpachtverträgen aus dem Faijum*, *ZPE* 9, 1972, 111–31. The *accessiones* mentioned by Columella (1.7.2), minor services such as the provision of wood, indicate that arrangements between Roman landlord and tenants might be diverse, but the essential contractual arrangement remains the same.

<sup>24</sup> Short-term contracts provide both landlord and tenant with greater flexibility; see J. M. CURRIE, *The Economic Theory of Land Tenure*, Cambridge 1981, 95–98. The threat of confiscating the tenant's capital pledged as security provided the landlord with an additional means of enforcement; see below at note 68.

<sup>25</sup> C. A. YEO, *The Economics of Roman and American Slavery*, *Finanzarchiv* 13, 1952, 459, argues that Roman landlords deliberately kept their holdings geographically dispersed in order to reduce risk. But the distribution and fragmentation characteristic of Roman estates may have rather resulted from haphazard means of acquisition, such as inheritance and marriage; see DUNCAN-JONES, *Economy*, 323–24, and in *Studies in Roman Property*, 12. For the formation of estates at Veleia, see the discussion of DE PACHTÈRE (above, note 1); for Ligures Baebiani, see E. CHAMPLIN, *Owners and Neighbours at Ligures Baebiani*, *Chiron* 11, 1981, 245–51.

Rome (5.6.12).<sup>26</sup> But the estate for sale was not productive when Pliny wrote his letter, so that by purchasing it Pliny faced the possibility of having to wait for a return on his investment, or worse, the possibility that he might never realize an adequate return. Pliny mentions only the moveable capital normally provided by his tenants, but in all likelihood the poor state of these tenants also had a deleterious effect on the estate's fixed capital.

The Roman agricultural writers also provide evidence for a similarly conservative attitude investment in farm capital. For example, Pliny the Elder approves wholeheartedly Cato's «common-sense» principle that a landlord should try to make his estate productive with as little expense as possible (de agr. 1.5, NH 18.29–30).<sup>27</sup> More significantly, a prevailing upper-class distaste for investment in agriculture must stand behind the energy that Columella and Pliny the Elder devote to denying that agriculture in their day was in a state of decline and therefore not worth the attention of a landowner. Columella prefaces his handbook by refuting the widespread view that agriculture had declined because of the earth's failing fertility, and instead attributes the perceived decline in contemporary agriculture to the lack of interest displayed by Roman landowners (1 pref. 3f.).<sup>28</sup> Likewise Pliny the Elder laments the lack of interest among his contemporaries for agriculture, and presents a series of arguments to show how honored and productive agriculture was in the early days of Rome (NH 18.6f.; cf. Col. 1 pref. 13f.). Again, both these writers criticize the contemporary practice of accumulating extensive estates. Thus Columella describes estates so large that their owners could not even travel around them, but had to abandon them to be trampled by flocks and wild animals or to be worked with gangs of slaves and debt-laborers (1.3.12–13).<sup>29</sup> Similarly Pliny the Elder ascribes the contemporary decline of Italian agriculture to the growth of *latifundia* (NH 18.35).

Columella and Pliny the Elder were concerned with more than moralizing against what they perceived as a great social ill, the excessive concentration of

<sup>26</sup> On the use of the Tiber and its tributaries for transport, cf. SHERWIN-WHITE, *Commentary*, 323.

<sup>27</sup> Cato also recommends that the estate owner make as few purchases as possible of commodities needed for the estate (2.7), advice likewise approved by Pliny the Elder (NH 18.30). Cato's attitude does not mean, however, that he viewed estates as self-sufficient; see GUMMERUS, *Der römische Gutsbetrieb*, 21–23.

<sup>28</sup> Cf. Varro, R. R. 2 pref. 3. On the contrasting views of Varro and Columella concerning decline in Italian agriculture, see R. MARTIN, *Recherches sur les agronomes latins et leurs conceptions économiques et sociales*, Paris 1971, 257–86, 289–310.

<sup>29</sup> GUMMERUS, *Der römische Gutsbetrieb*, 62, 84 suggests that this passage may also refer to African estates, as does FRIER, ZRG 96, 1979, 222 note 94; contra DE NEEVE, *Colonus*, 102 note 173, with discussion of other views. On debt-bondsmen, see *ibid.* 157–59, 179–87, and 221–24.

land into relatively few hands.<sup>30</sup> No upper-class Roman landowner could oppose such concentration of ownership in principle, but Columella and Pliny did recognize the effects on agriculture of a tendency to increase wealth by extending holdings rather than by investing more heavily in existing ones.<sup>31</sup> Thus Columella concludes the passage quoted above by arguing that one should acquire only so much land as one's willingness and resources will allow him to cultivate (1.3.12). Pliny similarly condemns the growth of *latifundia* in connection with a discussion of an ancestral Roman principle that a landowner should limit the size of his holding in order to cultivate it more intensively: *modum agri in primis servandum antiqui putavere, quippe ita censebant, satius esse minus serere et melius arare ...* (NH 18.35). On the other hand, Pliny viewed excessively intensive cultivation as disadvantageous: *nihil minus expedire quam agrum optime colere* (NH 18.36). For Pliny the case of L. Taurus Rufus (cos. 17 BC) was instructive. This senator exhausted his own considerable resources by buying up and cultivating lands in Picenum (18.37);<sup>32</sup> thus Rufus illustrates the importance of moderation in agricultural investment: *bene colere necessarium est, optime damnosum ...* (18.38). The implications of this principle for Pliny are that in certain circumstances a landowner might not find it worth his while to harvest a crop or to cultivate his land diligently. Finally Pliny cites another proverb to support his view that the best kind of agriculture involved making land productive with the least expense: *quoniam igitur modo utilissime colentur agri? ex oraculo scilicet: <malis bonis>* (18.39).<sup>33</sup>

The testimony of Columella and Pliny the Elder is valuable because it reveals what these two writers perceived to be a characteristic attitude of Roman landowners, that it was more advantageous to invest wealth laterally by accumulating property than by investing in improvements on existing holdings. In this context

<sup>30</sup> For comparable sentiments about *latifundia*, cf. Seneca, de ben. 7.10.5, ep. 89.20. On Columella's views concerning large estates, see MARTIN, Recherches, 343-73; on the attitudes of Pliny the Elder, see *ibid.* 375-85, with REA 69, 1967, 64-66, and more generally M. W. FREDERIKSEN, Plinio il vecchio e l'agricoltura in età imperiale romana: gli aspetti tecnici ed economici, Tecnologia economia è società nel mondo romano, Como 1980, 81-97, and JHNE, in Kolonen, 103-17.

<sup>31</sup> On the general processes by which upper-class Roman landowners accumulated estates, see above, note 25; cf. below, note 43 on the restricted range of estates available for purchase by such landowners.

<sup>32</sup> On the upper-class attitudes toward the risks run by Rufus, see N. PURCELL, Wine and Wealth in Ancient Italy, JRS 75, 1985, 2 f., who views the high risks involved as a major factor deterring senatorial investment in viticulture until the imperial period, and TCHERNIA, Le vin de l'Italie romaine, 219 f.; cf. DUNCAN-JONES, Economy, 324.

<sup>33</sup> A contrasting economic outlook underlies Trimalchio's secret for becoming rich: *<bene emo, bene vendo>* (Petr., Sat. 75.9). As Trimalchio's experiences with overseas commerce indicate, an individual operating under this principle had a very different attitude toward risk than an upper-class Roman landowner; Trimalchio went so far as to sell or use as security the estates that he had recently inherited in order to invest the proceeds in commerce (76.8). On this latter passage, cf. VEYNE, REA 81, 1979, 276-77 and note 50.

it is possible to understand the high profitability attributed to raising livestock by Cato and other writers (cf. Varro, R.R. 1.7.10, Col. 3.3.1, 6 pref. 4–5, Cato apud Pliny, NH 18.29–30), because pasturing, involving investment primarily in land, typically becomes a more important source of revenue when depressed market prices or high costs of labor make investment in cereals and other more intensively cultivated crops unattractive.<sup>34</sup> The question of market conditions for agricultural products in Italy during the early empire is complex, but it is sufficient to point out that Roman landowners commonly did not view intensive agriculture as a lucrative target for investment.<sup>35</sup>

Columella was reacting against this negative attitude toward investment in intensive agriculture when he wrote his famous discussion of the costs of setting up a vineyard (3.3.1f.). Taking as a notional size for his vineyard seven *ingera* (1.75 ha), the amount of land that a *vinitor*, or specialized vine-dresser, could work in a year, Columella concludes that viticulture can indeed provide the landowner with high profits, after balancing estimated revenues against the costs of purchasing the *vinitor* and the land, the cost of preparing the vines, and 6% interest for lost revenues in the first two years (3.3.8–9). Columella's figures may be criticized; for example he seems to overestimate the costs of maintaining the labor force needed to assist the *vinitor*, and he does not provide for the storage and processing of the wine.<sup>36</sup> But the credibility of Columella's calculations is not so important as his use of them in an argument to convince fellow landowners of the potential profits to be derived from viticulture. Thus Columella asserts that viticulture can be more profitable than raising livestock or forestry, despite the widely held belief to the contrary (3.3.1–3). Similarly Columella bases his calculations on what he describes as conservative estimates for the size of the vintage and the market price for the wine (3.3.10; cf. 3.3.14 on the price of the quick-

<sup>34</sup> For this principle, see B. H. SLICHER VAN BATH, *The Agrarian History of Western Europe A. D. 500–1850*, trans. O. Ordish, London 1963, 127, 142, 213–16, I. WALLERSTEIN, *The Modern World System*, New York 1974, 108 f., and W. ABEL, *Agricultural Fluctuations in Europe from the Thirteenth to the Twentieth Centuries*, trans. O. Ordish, New York 1980, 70–71. For the attractions of livestock raising in Roman Italy, cf. D. W. RATHBONE, *The Slave Mode of Production in Italy*, JRS 73, 1983, 165.

<sup>35</sup> On the high cost of land transport limiting commerce in bulk goods, see A. H. M. JONES, *The Later Roman Empire 284–602*, Oxford 1964, 2.841–42, DUNCAN-JONES, *Economy*, 368, and earlier C. A. YEO, *Land and Sea Transportation in Imperial Italy*, TAPhA 77, 1946, 221–44; cf. more generally GREENE, *The Archaeology of the Roman Economy*, 35–43. The volume of trade in cereals within the Roman empire was nevertheless high; see K. HOPKINS, *Models, Ships and Staples*, in P. GARNSEY/C. R. WHITTAKER (edd.), *Trade and Famine in Classical Antiquity*, Cambridge 1983, 84–109.

<sup>36</sup> On Columella's calculations, see especially DUNCAN-JONES, *Economy*, 33–59, 376–377; cf., for a more positive appraisal of Columella's methods of economic reckoning, A. CARANDINI, *Columella's Vineyard and the Rationality of the Roman Economy*, *Opus* 2, 1983, 177–204, as well as LOVE, *Chiron* 16, 1986, 124–29. For Columella's purpose and audience in providing these calculations, cf. further TCHERNIA, *Le vin de l'Italie romaine*, 209–21.

sets), and on apparently high estimates for the price of the land, the *vinitor* and the preparation of the vineyard.<sup>37</sup> Behind Columella's discussion we can assume the existence of a widely held perception that it was no longer profitable for a landowner from Columella's reading public to invest capital in viticulture. This perception contrasts with the impression offered by Cato, who considered viticulture to be the most profitable form of agriculture (Cato, *de agr.* 1.7; cf. Varro *R.R.* 1.7.9).<sup>38</sup>

This impression that Roman landowners in the early empire were increasingly wary about investing heavily in capital-intensive and labor-intensive agriculture draws some further support from several anecdotes reported by Pliny the Elder. These anecdotes concern examples of spectacular success achieved in cultivating vines, and are of particular significance for testing attitudes toward investment, since viticulture was among the most capital-intensive forms of agriculture in early imperial Italy. The treatment of these anecdotes by Pliny the Elder suggests that it was rare for upper-class landowners to seek to increase their wealth by investing heavily in a given estate in order to obtain higher yields. Thus Pliny mentions that in his own day the art of viticulture was rarely practiced at its best, but cites his few examples in order to promote interest in this branch of agriculture (NH 14.47).

Pliny's first example concerns Acilius Sthenelus, a son of a freedman, who sold for HS 400,000 an estate in the *ager Nomentanus* near Rome. This estate consisted of sixty *iugera* (15 ha), and was cultivated exclusively with vines (14.48). Sthenelus must have invested heavily in equipping his property, for his sale price of almost HS 7,000 for each *iugerum* far exceeds Columella's assumed cost of approximately HS 4,000 for equipping a *iugerum* of vineyard.<sup>39</sup> Another individual of freedman origin, Vetulenus Aegialus, provides Pliny's second example; Aegialus gained notoriety from his successful cultivation of vines in Campania (14.49). But Pliny's foremost example is the grammarian Q. Remmius Palaemon, who flourished during the reigns of Claudius and Nero. Palaemon spent HS 600,000

<sup>37</sup> See DUNCAN-JONES, *Economy*, 48–54, 376–78.

<sup>38</sup> Cf. Varro, *R.R.* 1.8.1: *contra vineam sunt qui putent sumptu fructum devorare*, with AY-MARD, *Annales ESC* 2, 1947, 261 f., who discusses Roman aristocratic attitudes about the unprofitability of viticulture. On Cato's audience, see PURCELL, *JRS* 75, 1985, 5–6. The wine edict of Domitian has been seen as a response to a hypothetical crisis in Italian viticulture during the first century AD: Suet., *Domit.* 7.2, 14.2; Philostratus, *Apoll.* *Tyan.* 6.42, *Vit. Soph.* 1.520; Statius, *Silv.* 4.3.11–12; Eusebius, *Chron.* 92–93. But the wine edict seems rather at least in part to have been aimed at inhibiting drunkenness as part of a larger program of moral legislation; see DUNCAN-JONES, *Economy*, 35 note 4. B. LEVICK, *Domitian and the Provinces*, *Latomus* 41, 1982, 66–73, and E. LO CASCIO, *Gli Alimenta, l'agricoltura italica e l'approvvigionamento di Roma*, *RAL* 33, 1978, 342–47 argue that the purpose of the edict was to promote the cultivation of grain. On the immediate economic circumstances surrounding Domitian's policy, see TCHERNIA, *Le vin de l'Italie romaine*, 221–33. Cf. also below, note 75.

<sup>39</sup> Cf. DUNCAN-JONES, *Economy*, 46–47.

purchasing land in the *ager Nomentanus* ten miles from Rome and employed Acilius Sthenelus to retrench his vineyards (14.49–51). The efforts of Sthenelus resulted in legendary yields; Columella reports that each *ingerum* of Palaemon's vines (when later owned by Seneca) produced eight *cullei*, much more than the single *culleus* for each *ingerum* that he assumes for his own calculations (3.3.3; cf. 3.3.10, Pliny, NH 14.52). This investment was so successful that within eight years Palaemon sold his unharvested vintage for HS 400,000 (NH 14.50), a spectacular figure, even with expenses deducted, still far in excess of the six percent return generally assumed as characteristic for agriculture in the early empire.<sup>40</sup> We might contrast Palaemon's success with the HS 30,000 which Varro reports a farm near Reate of two hundred *ingera* provided his interlocutor, the senator Q. Axius (R.R. 3.2.15). The culmination of Palaemon's success was to sell his vineyards to Seneca not ten years after purchasing them for four times his original investment (14.51).<sup>41</sup>

These anecdotes are instructive because they shed light on Roman upper-class attitudes toward investment in agriculture. Palaemon apparently risked a good deal of capital in his investments, since he bought up rundown property that had been neglected, without moreover particularly fertile soil (Pliny, NH 14.50). Palaemon's greater willingness to accept so much risk may have been linked to his social origin; like the two other success stories mentioned by the Elder Pliny, Palaemon was a freedman.<sup>42</sup> But more significant is the reaction that Palaemon's success provoked. No one imitated Palaemon by investing in vineyards of their own; Pliny reports that Palaemon's neighbors merely made excuses about their own inability to practice viticulture. Instead, Seneca purchased Palaemon's vineyards at a high price, both because he admired them and presumably also because he could be sure that they would provide him with an income (14.51). Seneca was able to make such a purchase because of his immense wealth, but his pur-

<sup>40</sup> The yield from Palaemon's vineyard works out to 169 hl/ha, while Columella's assumed yield of 21 hl/ha is comparable with average yields recorded from the eighteenth and twentieth centuries in France, Spain and Italy by TCHERNIA, *Le vin de l'Italie romaine*, 359–60. Columella (3.3.9) assumes 6% as a return on capital in his calculations of the costs of setting up a vineyard; see DUNCAN-JONES, *Economy*, 33 and note 3. On Remmius Palaemon, see further Suet., *Gramm.* 23, J. ANDRÉ, in the Budé edition of Pliny NH 14, Paris 1958, 94–95, and J. CHRISTES, *Sklaven und Freigelassene als Grammatiker im antiken Rom*, Wiesbaden 1979, 98–102. Suetonius reports that Palaemon achieved a yearly income of HS 400,000 from his schools in Rome.

<sup>41</sup> This sale apparently took place in AD 62; see CHRISTES, *Sklaven und Freigelassene als Grammatiker*, 101 and note 85. On Seneca's interest in agriculture, see M. GRIFFIN, *Seneca, A Philosopher in Politics*, Oxford 1976, 289–91.

<sup>42</sup> For the social attitude of Pliny the Elder toward these freedmen, see PURCELL, *JRS* 75, 1985, 4–5, 11, who compares Petronius, *Sat.* 43.4; cf. HEITLAND, *Agricola*, 283–84. S. TREGGIARI, *Roman Freedmen in the Late Republic*, Oxford, 1969, 109 discusses other freedmen who profited from heavy investment in agriculture.

chase does not seem to have been qualitatively different from the one that Pliny the Younger contemplated making at Tifernum Tiberinum. Pliny's proposed investment of HS 3,000,000 was in fact higher than what Seneca paid for the vineyards of Palaemon, and Pliny reports that only the poor condition of the tenants made him hesitate to complete his purchase (ep. 3.19.6–7). Pliny's apparent preference for a fully equipped and productive estate, if we can judge from two cases, was characteristic of his class.<sup>43</sup>

Pliny's conservative attitude toward investment in agriculture had important consequences for the allocation of investment in farm capital on his estates. Under normal circumstances, a Roman landowner like Pliny sought to make the minimum investment in farm capital possible. Instead, such a landowner would promote his economic security by using any extra funds available to him to purchase additional land.<sup>44</sup> The major apparent exceptions to this pattern of behavior come from the imperial alimentary tables at Ligures Baebiani and Veleia (CIL IX 1455, ILS 6509; CIL XI 1147, ILS 6675). Landowners subscribing to these programs borrowed a portion of the value of their pledged property (approximately eight percent of the stated value), under the stipulation that they pay five

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<sup>43</sup> As STEINWENTER, *Fundus cum instrumento*, 29 and note 3 argues, Cato, *de agr.* 1.5 presupposes that an estate was normally purchased with its *instrumentum*; in Roman economic thinking, the rent achievable from an estate was a function of the state of its *instrumentum* (STEINWENTER 35). Such a preference for purchasing a fully productive estate motivates Cato's recommendation to buy from a good farmer, advice approved by Pliny the Elder (NH 18.28), and likewise explains the flurry of land sales that Pliny the Younger expected to result from Trajan's requirement for all candidates for senatorial office to have one third of their property invested in Italy (ep. 6.19.4–6). Apparently the exchanges of land would be largely confined to a narrow circle of senatorial landowners; thus Pliny advised a senatorial correspondent to take advantage of a peculiar real estate market by selling estates in Italy and purchasing estates in the provinces (6.19.6). Cf. FINLEY, *The Ancient Economy*, 117–21. Comparable is the case of Corellia, who, though long in the market for an estate near Comum, only made a purchase when her friend Pliny made one available (7.11, 14). The evidence adduced by E. RAWSON, *The Ciceronian Aristocracy and its Properties*, in *Studies in Roman Property*, 85–89, suggests that the frequent exchanges of land by the Ciceronian aristocracy likewise took place among a narrow range of owners. Landowners like Pliny also apparently raised capital for purchasing land from a confined circle of private connections; thus Pliny planned to use the resources of his mother-in-law Pompeia Celerina to acquire the estate at Tifernum Tiberinum (3.19.8). Pliny himself was a creditor (3.19.8; cf. 2.4, 3.11.2), and deriving income from loans was common for Roman aristocrats; see MARTIN, *Recherches*, 326f.; cf. VEYNE, *REA* 81, 1979, 279–80, and DUNCAN-JONES, *Economy*, 21.

<sup>44</sup> See P. VEYNE, *La table des Ligures Baebiani et l'institution alimentaire de Trajan*, *MÉFR* 70, 1958, 235–36. The investment choices made by Trimalchio after his retirement from maritime commerce help to illustrate this attitude (Petronius, *Sat.* 76.9). Trimalchio's foremost concern is to extend his estates (*Sat.* 48.3, 77.3); moreover, he invests available cash by acquiring additional land, such as the *horti Pompeiani* (53.4–6). On Trimalchio's emulation of the economic goals of the Roman aristocracy, see P. VEYNE, *Vie de Trimalcion*, *Annales ESC* 16, 1961, 213–47. On the investment of spare cash, see *id.*, *REA* 81, 1979, 272 note 33.

percent yearly interest in order to support the purchase of food for children in their communities. But in these cases the primary purpose of the loans was demographic, so that the alimentary programs provide no evidence for the investment strategies of Roman landowners. Here they borrowed new capital only under special circumstances, in this case a program promoting a social goal and one sponsored by the emperor. After all, some of the more prominent landowners at Ligures Baebiani apparently were spared the obligation of subscribing to these programs, probably because they made their own private contributions to support their communities.<sup>45</sup>

Although conditions in an overseas province need not have been similar to those in Italy, the difficulty that Pliny encountered as governor of Bithynia in investing surplus public funds may provide a parallel for this hypothetical aversion of Roman landowners to invest in farm capital (10.54.1). The lack of any opportunity to invest in farm real estate not only prevented the municipalities from using their surplus funds for the purchase of land, but also inhibited private individuals from accepting loans of these funds at the existing market interest rate of nine percent. In fact the market for loans was so poor that Pliny had no confidence that leftover funds could be lent out even against interest below the market rate, and Pliny therefore considered compelling town-councillors to accept loans, a practice which the emperor Trajan forbade (10.54.2, 10.55).<sup>46</sup>

## II

The reluctance on the part of landowners like Pliny to invest in farm capital made their relationships with their tenants complex. Despite the impression offered by the Roman agricultural writers, upper-class landowners did depend for income on estates devoted to intensive agriculture. As I have suggested, such landowners regularly tried to impose the costs of investment in such agriculture on their tenants. Pliny's dependence on investment by tenants first becomes apparent from the substantial resources that his tenants brought to his estates. Pliny's discussion of the need to replace the confiscated pledges of the depressed

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<sup>45</sup> On the loans at Veleia, see DE PACHTÈRE, *La table hypothécaire de Veleia*, 98–115. On the purposes of the imperial *alimenta*, see convincingly DUNCAN-JONES, *Economy*, 288–319, especially 382–83, and earlier VEYNE, *MEFR* 69, 1957, 81–135, 70, 1958, 177–241, especially 231 f.; contra LO CASCIO, *RAL* 33, 1978, 311–51, who argues that the loans were designed to promote the production of food for Rome. On the non-participation of members of prominent families in the alimentary program at Ligures Baebiani, see CHAMPLIN, *Chiron* 11, 1981, 263.

<sup>46</sup> On the interest rate, 9% rather than 12% (*duodenis assibus*, 3/4% each month, 10.54.1): DUNCAN-JONES, *Economy*, 307 note 2; cf. SHERWIN-WHITE, *Commentary*, 635–36 Cf. ep. 7.18, where Pliny established a permanent *vectigal* on one of his estates in order to fund his alimentary program at Comum, with DUNCAN-JONES 300 note 3. For Pliny investment in land apparently constituted the only safe means of producing long-term revenue.

tenants at Tifernum Tiberinum (3.19.6–7) indicates that the capital brought by these tenants to the estate included slaves. The analogy of slaves as moveable capital also implies, as suggested above (at note 10), that these tenants provided and maintained their own draft animals, although no text can be found to support this point specifically.<sup>47</sup> The ability to provide slaves and draft animals gives us some indication of the relative level of resources that Pliny's tenants had at their disposal, for the ownership of such capital is of fundamental importance in determining the status of a farmer in a pre-industrial agricultural community. Characteristically, only farmers with draft animals of their own are capable of becoming self-sufficient and economically independent; other farmers lacking such vital resources often have to depend on the capital of wealthier farmers in order to plow their own lands, and consequently they tend to be reduced to the status of dependent laborers.<sup>48</sup>

The ability of Pliny's tenants to furnish such important capital thus provides the key to understanding their economic function on Pliny's estates. Pliny sought tenants with substantial resources because only such tenants were capable of investing in improvements in the fixed farm capital vital for keeping the estate productive. The question of improvements made by the tenant was apparently one basic to the Roman estate economy, since it drew the frequent attention of the legal sources. The major point of dispute concerned the problem of compensation by the landlord for improvements in which the tenant had invested, and the jurists directed their attention toward resolving this problem. The earliest preserved response dealing with this question is that of the second-century jurist Scaevola, who ruled that tenants were entitled to compensation for improvements (this particular response concerns vineyards) increasing the value of the estate but not explicitly provided for in the lease contract (Dig.19.2.61 pr.). Later Paul (Dig.19.2.55.1 = Sent. 2.18.4) made a more general response entitling tenants to compensation for improvements not provided for in the lease, while according to Julian (Dig.7.1.34.1) a tenant receiving through a legacy a usufruct over his farm

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<sup>47</sup> See FRIER, ZRG 96, 1979, 217. Ulp. Dig. 19.2.15.1 mentions the failure of the landlord to provide stables as a basis for *actio ex conducto*; this passage may refer to the leasing of meadowland, however, where the livestock necessarily belong to the tenant. Pliny, NH 33.134 f. refers to the bequests of C. Caecilius Isidorus of 8 BC, who owned 3,600 yoke of oxen as well as 4,116 slaves. The high ratio of oxen to slaves suggests that Isidorus cultivated some of his land through free labor or tenants and provided the draft animals himself. Cf. P. A. BRUNT, *Two Great Roman Landowners*, Latomus 34, 1975, 624–29, DUNCAN-JONES, *Economy*, 325, JOHNE, in Kolonen, 115, and FRIER 217 note 72, who views Pliny's numbers as suspect.

<sup>48</sup> See SLICHER VAN BATH, *The Agrarian History of Western Europe*, 312 f., and M. BLOCH, *French Rural History, An Essay on Its Basic Characteristics*, trans. J. Sondheimer, Berkeley – Los Angeles 1966, 193–96. In general on the importance of capital for peasant agriculture, see A. V. CHAYANOV, *Peasant Farm Organization* (1925), trans. R. E. F. Smith, in D. THORNER, B. KERBLAY, R. E. F. SMITH (edd.), *The Theory of Peasant Economy*, Homewood, Illinois 1966, 90–117.

could seek compensation from the heir for improvements. Moreover a response by Ulpian (Dig. 19.2.9.1) concerning compensation for improvements made by a tenant leasing a farm assigned to a *fructuarius* presupposes that tenants regularly made improvements on their farms without previously arranging with their landlords to do so.<sup>49</sup>

Columella's recommendations concerning the proper treatment of tenants, moreover, provide additional evidence to corroborate the hypothesis that Roman landowners characteristically relied upon their tenants to invest in improvements that would promote the long-term productivity of the estate. In a discussion of the difficulty for the landlord of balancing his need to treat tenants mildly against his interest to defend his own rights, Columella suggests that the landlord's most important concern should be to promote careful cultivation by the tenant, and that this concern took precedence over the desirability of exacting timely payments of rent from the tenant (1.7.1): *comiter agat cum colonis facilemque se praebeat, et avarius opus exigit quam pensiones, quoniam et minus id offendet et tamen in univsum magis prodest. nam ubi sedulo colitur ager, plerumque compendium, numquam, nisi si caeli maior vis aut praedonis incessit, detrimentum adfert, eoque remissionem petere non audet.* By concerning himself more with the work of the tenants than with the rent,<sup>50</sup> the landowner accomplished the vital goal of promoting greater investment by the tenant in the estate. Thus Columella also recommends that the landlord seek to retain tenants with a continuing commitment to their estate. Accordingly, Columella approves the opinion of the consular (L.) Volusius Saturninus,<sup>51</sup> who held that it was best to keep tenants on the estate generation after generation (1.7.3): *sed et ipse nostra memoria veterem consularem virumque opulentissimum (L.) Volusium adseverantem audivi felicissimum fundum esse, qui colonos indigenas haberet et tamquam in paterna possessione natos inde a cunabulis longa familiaritate retineret. ita certe mea fert opinio rem malam esse frequentem locationem fundi, peiorem tamen urbanum colonum, qui per familiam mavult agrum quam per se colere.* Columella envisions roughly the same system of tenancy as on Pliny's estates; the *coloni* were required to pay cash rents as well as

<sup>49</sup> See FRIER, ZRG 96, 1979, 210 note 34, and KÖHN, in Kolonen, 222 f. A tenant might contract with his landlord to make improvements (Paul. Dig. 19.2.24.3). The liability of tenants making improvements for damage to neighbors' farms was also an issue: Ulp. Dig. 39.3.4.2–3, Paul. Dig. 39.3.5; see HEITLAND, *Agricola*, 366–67, and FINLEY, in *Studies in Roman Property*, 109. On the economics of compensation for unexhausted improvements, see CURRIE, *The Economic Theory of Land Tenure*, 69–80.

<sup>50</sup> For this interpretation of the phrase *opus exigit*, see GUMMERUS, *Der römische Gutsbetrieb*, 85, and FINLEY, in *Studies in Roman Property*, 119–21. M. WEBER, *Die römische Agrargeschichte*, 243–50, sees it as referring to work on a central farm; cf. HEITLAND, *Agricola*, 252–57. Cf. 3.3.6, where Columella criticizes seeking the highest immediate profits without providing for the future productivity of the vineyard.

<sup>51</sup> On the identity of Columella's Volusius, see R. HANSLIK, *RE Suppl.* Bd. 9, 1962, s. v. «Volusius» no. 17.

to perform certain minor duties such as the provision of wood (1.7.2). Similarly Columella's tenants, like those of Pliny, supplied their own slaves and presumably their own draft animals; the alternative posed by Columella distinguishes an *urbanus colonus*, a non-resident tenant, who cultivated his tenancy using his own slaves, and a tenant resident on the estate. Nothing in this passage suggests that the *urbanus colonus* was of a higher economic status than other *coloni*; rather, Columella merely recommends that the landlord promote better cultivation by finding tenants who had a more active interest in their estate. In addition, Columella's tenants occupied their farms under short-term leases, as his recommendation against frequent leasing of tenancies indicates. Columella's desire to retain his tenants as if they were farming inherited land does not indicate that he sought to bind them to his estate with perpetual leases, but only that he envisioned the possibility of regularly renewing conventional short-term leases.<sup>52</sup>

Columella's recommendation to keep the same tenants year after year emphasizes how the interests of the landowner depended on the effort that his tenants applied to their individual farms. Strictly speaking under a short-term lease for a fixed rent, the effort that the tenant applies to the farm is of little interest to the landlord as long as the tenant does not damage the capital, since the tenant is contractually obligated to pay the same rent no matter how he has cultivated his land. But Columella's advice that the landlord concern himself more with the tenant's performance of labor than with his timely payment of rent indicates that a landlord could not depend on his rent alone (1.7.1). Because Columella envisioned tenants as contributing to the landlord's welfare by continually investing labor and capital to improve their own farms, the landlord faced the difficulty not only of finding tenants with adequate resources, but also of giving them a long-term interest in their farms. The problem with the *urbanus colonus* did not only stem from the inferior farm management that he would afford by not being present on the estate. Worse, the *urbanus colonus*, who theoretically could cultivate a variety of tenancies owned by several different landlords, did not depend on any single farm for his livelihood, and so had no continuing interest in maintaining the productivity of any single tenancy. The interests of such a tenant would more closely correspond to those theoretically defined for a tenant leasing for a limited period of time for a cash rent; he would lease the capital from his landlord and pay his rent, but would tend to leave it up to the landlord to pay for capital improvements. Frequently finding new tenants, moreover, was very inconvenient for the landlord. The landlord would have to face not only the problem of claiming his full rent, but also of settling accounts for improvements made on

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<sup>52</sup> Contra BROCKMEYER, *Arbeitsorganisation*, 172–73; cf. KÖHN, in *Kolonen*, 235–36. It is doubtful whether a private owner could effectively guarantee such leases; cf. KASER, *RPR*<sup>2</sup> 1.455–56, and earlier, T. MAYER-MALY, *Locatio Conductio*, Wien 1956, 25–26, 70–71. On the tacit renewal of the short-term lease, see below at note 59.

the tenancy. To paraphrase Columella's authority Saserna, frequent leasing of the estate would thus result in frequent lawsuits. Accordingly Columella approves the advice of Saserna to make an effort to retain tenants: ... *propter quod operam dandam esse ut et rusticos et eosdem assiduos colonos retineamus* ... (1.7.4).<sup>53</sup>

The evidence that I have adduced suggests how the interests of Pliny and similar upper-class Roman landowners went beyond what we might expect simply by examining the terms of farm leases. Thus a major problem facing Roman landowners involved overcoming the disincentives for investment on the part of the tenant inherent in the short-term lease. This problem can be most readily appreciated in the case of capital-intensive crops such as vines, which at least one legal source envisions a hypothetical tenant as planting without the prior knowledge of his landlord (Scaev. Dig. 19.2.61 pr.). Such crops as vines or olives not only involved great expense in planting, but also required a long time before they could produce a crop large enough to provide any return on the original investment.<sup>54</sup> Thus Roman landowners dependent on tenants for their income had to find some way to induce their tenants to make investments that often would pay off only after the expiration of the original lease.

Roman landlords might accomplish this purpose by taking advantage of the economic goals of their tenants. I have described the tenants of Pliny as farmers with important capital of their own, but we should also keep in mind that such tenants were in all likelihood also small-scale farmers, producing essentially to meet their own subsistence needs with a surplus left over to pay their rent and

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<sup>53</sup> On the recommendations of the Saserna, see J. KOLENDO, *Le traité d'agronomie des Saserna*, Wrocław 1973, 40–41. This impression that tenants might remain on the same estates for extended periods is confirmed by two inscriptions referring to *coloni* remaining for fifty and twenty-two years respectively on what appear to have been private estates in Italy: ILS 7455, with 7455 a (WEBER, in Kolonen, nos. 5–6, discussed above, note 10), and ILS 7454 (CIL VI 9275, cf. p. 3469, WEBER no. 11, Rome). CIL X 1918 (WEBER no. 2, Puteoli) also apparently records a twenty-three year stay in a single tenancy, but the inscription may have a sacral context, since an inscription of the same location, ILS 6329 (CIL X 1877, WEBER no. 3), uses the phrase *coluit annis / XXXXV* referring to an *Augustalis*. A Ti. Statorius Geminus, described in his epitaph as a *col(ono) f(undi) Pac(c)iani* (ILS 8555, CIL IX 888, WEBER no. 1, Luceria), spent an extended period in a single tenancy, but possibly on an imperial estate, since his wife was an imperial slave. Cf. also *Iaso colonus / fundo Mariano* (ILS 7453, CIL VI 9276, WEBER no. 9, Rome), who may have been a *servus quasi colonus*. On these inscriptions, see WEBER 261, 267, 272. Extended tenancies such as these should not be viewed as perpetual; rather the individual tenants probably renewed their leases year after year.

<sup>54</sup> Olives require approximately ten years to produce a crop; see J. M. HOUSTON, *The Western Mediterranean World: an Introduction to its Regional Landscapes*, London 1964, 121. For vines, see DUNCAN-JONES, *Economy*, 40 and note 2. Columella (3.3.9) suggests that vines would produce at least some revenue after two years; cf. Pliny, NH 17.173, 182. For a view that the short-term lease was a major stumbling block to progress in Roman agriculture, see FINLEY, in *Studies in Roman Property*, 109. But short-term leases do not necessarily imply insecurity for the tenant; see CURRIE, *The Economic Theory of Land Tenure*, 69–71.

meet their other financial and social obligations. Such small-scale farmers might represent a wide range of wealth, but a well-known characteristic of farmers cultivating under such conditions is that they are willing to invest capital and especially labor in their farms beyond the point where a larger landowner, seeking some minimum return, will find further investment no longer worth his while.<sup>55</sup>

I would argue that this theoretical model can be applied to Pliny's estates. Pliny's tenants resided on the estate and depended for their livelihoods on their individual farms; the several slaves owned by each tenant at the same time formed part of the capital to be maintained and part of the labor force exploitable to attain desired targets of production. Thus such a tenant would tend to make more intensive use of his land than a large landowner, for whom costs of labor were always a factor limiting production.<sup>56</sup> Tenants dependent on their individual farms would moreover be less deterred from producing a surplus by the prospect of poor market prices, since their prosperity depended more on achieving an adequate harvest than on market prices.<sup>57</sup> Pliny the Elder recognized these characteristics of small-scale farming when he cautions landowners against expending too much effort in cultivating their land, arguing that high costs of labor make some crops not worth harvesting, and that some lands are not worth cultivating diligently (NH 18.36–38). The exception to this principle for Pliny is land cultivated by a farmer whose household depended on the land's produce for survival; in that case economic necessity would force the farmer to cultivate his land as diligently as possible: *bene colere necessarium est, optime damnosum, praeterquam subole sua (suo MSS.) colono aut pascendis alioqui colente domino, aliquas messes colligere non expedit ...* (NH 18.38).<sup>58</sup>

<sup>55</sup> This analysis draws from the theories developed by A. V. CHAYANOV. See his (TSCHAIANOFF) «The Socio-Economic Nature of Peasant Farm Economy» (1918), in P. A. SOROKIN, *et al.* (edd.), *A Systematic Source Book in Rural Sociology*, Minneapolis 1931, 2.144–47; on the Theory of Non-Capitalist Economic Systems (1924), trans. C. Lane, in *The Theory of Peasant Economy* (above, note 48) 1–28, especially 5–8, and *Peasant Farm Organization* (1925), *ibid.* 29–269. CHAYANOV's theories are further refined by J. B. MILLAR, *A Reformulation of A. V. Chayanov's Theory of the Peasant Economy, Economic Development and Cultural Change* 18.2, 1970, 219–29; cf. T. B. WIENS, *Uncertainty and Factor Allocation in a Peasant Farm Economy*, *Oxford Economic Papers* n. s. 29, 1977, 48–60. For a general discussion of peasant farm economics, see also D. GRIGG, *The Dynamics of Agricultural Change*, London 1982, 91–100.

<sup>56</sup> Dio of Prusa in his seventh or Euboean oration views small-scale farmers as more willing to put greater effort into their land than large-scale landowners; cf. especially 7.33–37. Viticulture (an important aspect of Pliny's estates) is compatible with the small-scale production of tenants; see TCHERNIA, *Le vin de l'Italie romaine*, 114–15.

<sup>57</sup> On this principle, see W. KULA, *An Economic Theory of the Feudal System*, trans. L. Garner, London 1977, 53–68, 82–111; cf. more generally ABEL, *Agricultural Fluctuations*, 8–13.

<sup>58</sup> On the text of this passage, see DE NEEVE, *Colonus*, 55 note 106. H. LE BONNIEC, in the Budé edition, Paris 1972, punctuates after *damosum*, and retains the MSS. reading *suo*. On

This concern of landowners to promote such investment placed them in a contradictory position in relationship to their tenants. On the one hand, both landlord and tenant gained advantages from a legal principle concerning the tacit renewal of the lease. Under this principle tenants might remain in their tenancies after the expiration of the original lease, cultivating under the same terms, unless the landlord intervened directly. Landlords could extend the leases of their tenants with little expense in management, while tacit renewal of the lease provided tenants with the expectation that they might continue to profit from their investments.<sup>59</sup> In practice, however, the question of investments was not so easily resolved. Landlords, to judge by the recommendations of Columella, often had to make difficult choices between pressing their legal claims for the fulfillment of the lease contract and the desirability in keeping the same tenants on the estate in order to promote long-term productivity. Thus Columella's warning about pressing claims against tenants (1.7.1–2) should be considered in light of the actions of the previous owner of the estate whose purchase Pliny considered at Tifernum Tiberinum. That landlord had incapacitated his tenants by confiscating their pledges when they had defaulted on their rent (3.19.6). Likewise Columella's advice against frequently changing tenants must be viewed in consideration of the difficult prospect that Pliny faced in finding suitable tenants, *idoneos conductores*, for his Tuscan estates (7.30.3; see below). Landowners could not improve conditions on their estates simply by discharging unsatisfactory tenants.<sup>60</sup>

Pliny would never have had to face such difficult choices in leasing his estates had there been a ready supply of tenants with resources adequate to cultivate his farms productively, but evidence from his letters indicates that Pliny confronted a

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Pliny the Elder's views concerning costs of labor, see PURCELL, JRS 75, 1985, 3–4. Columella (1.7.5) views land of poor quality as the only land more profitably leased out to *coloni* than cultivated directly. Behind this view must stand the same conception of small-scale agriculture as with Pliny the Elder, namely that it will only be worth the effort of a farmer dependent on a plot of restricted size for his subsistence to invest the effort necessary to make poor land productive. For a different interpretation, cf. FREDERIKSEN, *Plinio il vecchio e l'agricoltura in età imperiale romana*, 86.

<sup>59</sup> See Ulp. Dig. 19.2.13.11: the same property of the tenant remained pledged as security, as long as the pledges were not provided by a third party. The lease was moreover considered as continuing under the same terms for one year only, but could be renewed in this way indefinitely; cf. Ulp. Dig. 19.2.14. See also CJ 4.65.16 (AD 260), with FINLEY, in *Studies in Roman Property*, 114–15, KÖHN, in *Kolonen*, 238–39, and in general KASER, RPR<sup>2</sup> 1.568 and note 52. For the security of tenure that can arise from such a system of leasing, see CURRIE, loc. cit. above, note 54.

<sup>60</sup> At Pliny, ep. 10.8.5, the use of the term *novus colonus* does not necessarily imply that Pliny found new tenants for his estate; the term rather refers to the tenants under their new leases. These tenants thus could include tenants already on the estate who had renewed their leases; cf. JOHNÉ, in *Kolonen*, 135–36. DE NEEVE, *Colonus*, 166 views the phrase as referring to a single tenant paying a rent of HS 400,000; cf. BROCKMEYER, *Arbeitsorganisation*, 387 note 41.

chronic shortage of suitable tenants. Thus Pliny complains of a shortage of *coloni* and a general agricultural slump as factors exacerbating the depressed state of the estate at Tifernum Tiberinum: ... *et hac penuria colonorum et communi temporis iniquitate* ... (3.19.7). In a subsequent letter, probably referring to his own property at Tifernum Tiberinum,<sup>61</sup> Pliny mentions the difficulty of finding suitable tenants as hampering his efforts to lease out his estates (7.30.3). Pliny's complaints are more than the customary grumbling of a large-scale landowner, in view of the situation that he encountered in 3.19. Pliny never contemplated dismissing the tenants who were in arrears on that estate and replacing them with new tenants; the shortage of tenants with sufficient resources made such an action impossible. Several legal responses, moreover, presuppose that landlords characteristically encountered difficulty in finding and retaining suitable tenants. For example, Paul mentions the division of a *fundus* in order to facilitate leasing it out (Dig. 31.86.1), while Scaevola discusses the hypothetical case of a part of an estate without tenants, *praediorum pars sine colonis*, which the owner has assigned to an *actor* to cultivate (Dig. 20.1.32, 5 Resp.). This latter passage moreover assumes that landowners normally preferred to lease their land out, and only resorted to direct cultivation when suitable tenants could not be found.<sup>62</sup>

This chronic shortage of tenants had an immediate effect on the relationships between Pliny and his tenants, in that Pliny had to accept a greater share of risk than would be indicated by the customary terms of the Italian farm lease. The classical Italian farm lease imposed the bulk of the risk in farming on the tenant, but did grant the tenant relief from the obligation to pay rent in the event of *vis maior*, an unforeseeable disaster to the crop that made the tenant's farm impossible to cultivate (Servius apud Ulp. Dig. 19.2.15.2; cf. Gaius Dig. 19.2.25.6).<sup>63</sup> But

<sup>61</sup> See SHERWIN-WHITE, Commentary, 439–40 for the date (late summer 107) and the location of this estate.

<sup>62</sup> On these passages, see FRIER, ZRG 96, 1979, 223 and note 100. Hermogenes Dig. 19.1.49 pr. (Papin., Fr. Vat. 13) refers to the defrauding of a buyer by feigning the presence of a tenant on the estate. Several legal sources address the issue of *coloni* leaving their tenancies before the expiration of the lease: Paul. Dig. 19.2.24.2, 19.2.54.1, 19.2.55.2. A similar concern to promote small-scale cultivation as a means of producing revenue may be indicated by several land distributions on what apparently were imperial estates in Italy: at Abella and Nola under Vespaian (Lib. Col. I pp. 230, 233, 236 Lachmann), at Lanuvium under Hadrian (ibid. 235), and in the *Ager Ostensis* under Vespaian, Trajan and Hadrian (ibid. 236); cf. D. CRAWFORD, Imperial Estates, in *Studies in Roman Property*, 50. Also Nerva distributed lands valued at sixty million sesterces to poor Romans: Dio 68.2.1; cf. Pliny, ep. 7.31.4, Martial, epigr. 12.6.9–11, Callist. Dig. 47.21.3.1, and ILS 1019 (CIL VI 1548), with DUNCAN-JONES, *Economy*, 292.

<sup>63</sup> On legal *remissio mercedis*, see F. SITZIA, Considerazioni in tema di periculum locatoris e di remissio mercedis, in Studi G. D'Amelio, Milan 1978, 1.331–61, P. W. DE NEEVE, Remissio Mercedis, ZRG 100, 1983, 296–339, with bibliography, and KÖHN, in Kolonen, 226–32; cf. MOLNÁR, in ANRW II.14, 1982, 665–80.

landlords were not legally obliged to grant remissions of rent for losses resulting from the normal hazards of farming such as a poor crop caused for example by an infestation of pests or weeds (Ulp. Dig. 19.2.15.2) or by the advanced age of the vines (*id.* Dig. 19.2.15.5). Thus without the intervention of the landlord and the renegotiation of the lease, tenants had no legal recourse to gain relief from their obligations in the event of a poor crop. The problems of the tenant's risk in farming become all the more crucial in view of the chronic vicissitudes of Mediterranean agriculture, subject to irregular rainfall and frequent droughts.<sup>64</sup> Pliny indeed on several occasions refers to poor crops on his estates (8.15.1, 9.20.2, 10.8.5); in the most dramatic case, hail severely damaged the crops on his Tuscan estates (4.6.1). Such uncertainty of climate could prove catastrophic to tenants needing to produce a surplus for sale in order to pay a predetermined cash rent.<sup>65</sup>

The concern of Columella to avoid granting remissions except for *vis maior* (1.7.1) suggests that Roman landlords frequently were forced to go beyond their strict legal obligations by renegotiating the lease contract with their tenants during poor years.<sup>66</sup> Thus it comes as no surprise that Pliny regularly granted remissions of rent. Pliny appealed to Trajan for a leave of absence to visit his Tuscan estates, and reports that continued poor crops had forced him to consider remissions of rent (10.8.5, AD 98–99). The problem requiring Pliny's personal intervention in the management of his estates continued to prove severe, for Pliny reports eight or nine years later that substantial remissions of rent still had not solved the problems of his tenants (9.37.2).<sup>67</sup>

Market conditions gave Pliny's tenants substantial bargaining power, but they still faced continuing difficulties in cultivating their land. The most important market consideration affecting the relationship between landlords and tenants on Italian estates was the dependence of landlords on their tenants to invest labor and capital in intensive agriculture. This dependence was exacerbated from the point of view of the landowners by a general shortage of farm capital and their own unwillingness to bear the risks involved in investment, and so it gave tenants

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<sup>64</sup> For this problem in a later period, see E. LE ROY LADURIE, *The Peasants of Languedoc*, trans. J. Day, Urbana, 1974, 133. Italy, however, receives more rainfall than other Mediterranean countries; see HOUSTON, *The Western Mediterranean World*, 415–20.

<sup>65</sup> Only a large-scale producer, selling a large proportion of his produce and possessing sufficient reserves to free him from dependence for survival on his annual crop, might take advantage of a poor harvest by selling at high prices. Smaller farmers market a lower proportion of their produce, so that a poor harvest would force them to choose between consuming and selling their produce; see above, note 57.

<sup>66</sup> On such «social remission» of rent, see FRIER, ZRG 96, 1979, 221 and note 89, with references to legal texts: Jul. Dig. 2.14.56, Paul. Dig. 19.2.24.5, 34.3.16, Iav. Dig. 34.3.17.

<sup>67</sup> On the date of ep. 9.37 (August 107), see SHERWIN-WHITE, *Commentary*, 518–19. Ep. 10.8 may belong to either the summer of 98 or 99: SHERWIN-WHITE 571–73.

considerable leverage. But competition alone could not guarantee prosperity to such tenants, so that Pliny had to pursue a delicate balance between imposing burdens on them and maintaining their ability to cultivate their tenancies. Pliny's letters concerning his Tuscan estates (3.19, 9.37) provide evidence for how the need to maintain this balance limited the ability of a Roman landowner to exploit his estates.

### III

The chronic indebtedness of the tenants on these estates provided Pliny with both a means of promoting investment by his tenants as well as a major stumbling block to achieving that end. In a system of tenancy based on fixed payments, indebtedness is a regular and expected feature. We should expect that tenants regularly took on debt in order to acquire needed capital, and severe indebtedness can arise for a variety of causes. The tenant might fail to pay his rent in full because of a poor harvest; or less dramatically, the harvest or market prices might not provide him with an adequate return. Roman landlords will have readily tolerated such indebtedness on the part of their tenants; the threat of confiscating the tenant's pledges, crucial for his ability to take up a tenancy under another landowner, gave landlords an important bargaining chip. This ability was significant for the efforts of Roman landowners to promote investment by their tenants. The threat of confiscating capital could effectively keep tenants in their tenancies beyond the original period of their lease.<sup>68</sup> Columella, who considered the continued tenure of tenants as desirable, surely has such a concern in mind when he advises landowners against pressing their full legal claims against tenants (1.7.1–2); the benefits derived from the continued cultivation of the tenant's farm outweighed the short-term inconvenience of a loss of rent. The arrears of tenants, *reliqua colonorum*, became such a basic aspect of Roman agriculture that they gained a carefully defined legal status, being transferable to a new owner when an estate was alienated, either through sale, legacy or bequest (Scaev. Dig. 33.7.20.1).<sup>69</sup>

Pliny's description of the estate in 3.19 indeed suggests that indebtedness was a regular part of life for his tenants. Pliny expresses no surprise that the tenants on the estate that he considered buying were in debt, only dismay at the harsh action of the previous owner in confiscating and selling the pledges (3.19.6). The adverb

<sup>68</sup> On the importance of indebtedness as a means for landlords to exercise greater control over their tenants, see most recently FINLEY, in *Studies in Roman Property*, 111–17, and JOHNE, in *Kolonen*, 140.

<sup>69</sup> Cf. FRIER, *ZRG* 96, 1979, 221 and note 91 for additional references. The term *reliqua colonorum* is used in the Veleian alimentary table, *CIL* XI 1147 c. 431.75.

*saepius* shows that the action of this landowner was neither hasty nor rash, but represented a continuing policy in his dealings with his tenants. Pliny moreover expresses no intention of evicting the tenants on this estate once he took possession, but planned only to re-equip them with slaves. These tenants thus were to remain on the estate, transferring their indebtedness to Pliny.

But this type of indebtedness also brought to the landowner disadvantages, which are revealed in Pliny's discussion of his plan to institute sharecropping (ep. 9.37). The tenants on these estates were subject to indebtedness in the same way as the tenants on the estate in ep. 3.19. In fact, if Pliny in the mean time purchased the estate in 3.19, the tenants of that letter may be included among the ones discussed in 9.37. Pliny realized the importance of maintaining the ability of his tenants to keep cultivating their land productively, and so he avoided the policy of the estate owner in 3.19. Instead of confiscating the pledges, Pliny granted remissions of rent, but the problem was so severe that indebtedness continued to grow despite Pliny's generosity: *nam priore lustro, quamquam post magnas remissiones, reliqua creverunt* (9.37.2). The dangers of tenant indebtedness manifested themselves to Pliny in the destructive manner in which his tenants cultivated their land (9.37.2): *... inde plerisque nulla iam cura minuendi aeris alieni, quod desperant posse persolvi; rapiunt etiam consumuntque quod natum est, ut qui iam putent se non sibi parcere.*

Under the worst conditions a series of bad harvests might cause far more serious harm than to prevent the tenants from meeting their immediate financial obligations. With no prospect of paying off their debts, such tenants were incapable of accumulating or even of maintaining the capital they required to keep their tenancies productive. Tenants facing mounting indebtedness might themselves sell off such valuable capital as slaves or draft animals or even consume their own seed and livestock.

The severe indebtedness of Pliny's tenants therefore compromised their ability to fulfill what was from the point of view of a landowner their most important function in the estate economy. The vital importance of having self-sufficient tenants makes more understandable Pliny's hesitancy about equipping with slaves the depressed tenants in 3.19. Supplying these tenants with capital could only relieve the immediate crisis, but would not provide a satisfactory long-term solution to the problems that caused the severe indebtedness in the first place. By providing slaves to relieve debt, Pliny risked committing himself to a new and disadvantageous relationship with his tenants. Tenants cultivating their land under these conditions could use their ability to maintain capital as a bargaining chip; such tenants willing to sacrifice their own capital could hardly be relied upon to maintain the fixed capital of their tenancies, let alone to invest in improvements. Faced with the loss of future crops because of the disappearance of the tenants' capital, the landlord would have no choice but to replace this capital regularly at his own expense, and by implication to shoulder the costs of long-term

improvements.<sup>70</sup> Thus Pliny's tenants might in the long run use their own problems of indebtedness in order to impose on him a greater share of the costs of contributing capital. Pliny would now be involved more directly in the management of his estates, and he would also bear increasing risk. Using tenant indebtedness as a negotiating tool could only work to the advantage of a landowner as long as the tenants were capable of maintaining sufficient capital of their own, or as long as a ready supply of tenants with such capital made competition for land intense.

Pliny's decision to institute sharecropping as the system of land tenure on his Tuscan estates indicates his recognition that his interests were no longer adequately served by the terms of the customary cash leases. Sharecropping clearly helped to lessen the likelihood of future indebtedness, since it reduces the rent in proportion to the size of the harvest. Such a reduction of risk was a vital consideration for Pliny, in view of the unreliability of Mediterranean agriculture in general and the evidence that repeated poor harvests had exacerbated the debt problems of his tenants (see above at notes 64–65). Thus sharecropping provided Pliny with a system of tenure under which he would less often be forced to confiscate the valuable capital represented by the pledges of the tenants, a course of action which maintained his immediate revenues, but which at the same time made the future cultivation of his estates all the more difficult.

Since landowners like Pliny were characteristically risk-averse, the establishment of a system of land tenure that allowed both landlord and tenant to contract to share risk must have resulted to a significant degree from the bargaining power of the latter party.<sup>71</sup> Sharecropping, however, does not represent the only way for landlord and tenant to share risk. For example, a landlord might include escape clauses in the lease contract, thus agreeing to renegotiate the rent downward in the event of a poor harvest.<sup>72</sup> The existence of alternative methods for apportioning risk means that the institution of sharecropping on Pliny's estates did not itself represent a victory for the bargaining power of the tenants. Rather, Pliny's tenants had already won this victory, forcing Pliny repeatedly to renegotiate their lease contracts and thereby to accept a larger burden of the risk himself (9.37.2; cf. 10.8.5).

By instituting sharecropping Pliny sought to devise a system of land tenure

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<sup>70</sup> For comparative discussion of this problem, see KULA, *An Economic Theory of the Feudal System*, 48 f., 64–65.

<sup>71</sup> Cf. the analysis of Y. HUANG, *Tenancy Patterns, Productivity, and Rentals in Malaysia*, *Economic Development and Cultural Change* 23.4, 1975, 707; for a contrasting view, see J. D. REID, Jr., *Sharecropping and Agricultural Uncertainty*, *ibid.* 24.3, 1976, 565.

<sup>72</sup> On the economic function of escape clauses, see S. N. S. CHEUNG, *The Theory of Share Tenancy*, Chicago 1969, 72–76. Contracts can be mixed as a means of distributing risk; see J. D. REID, Jr., *Sharecropping in History and Theory*, *Agricultural History* 49, 1975, 432–33, and *Economic Development and Cultural Change* 24.3, 1976, 562–68.

that would reduce future indebtedness on the part of his tenants, and at the same time discourage his tenants from using the threat of abusing capital as a means of forcing him to grant concessions. Thus Pliny instituted sharecropping not simply because it brought relief to his tenants, but because it provided a more acceptable means to accomplish this goal than the existing system of fixed-rent leases with frequent but irregular renegotiation. From this point of view, the regular reduction in rent produced by sharecropping protected Pliny's interests, affording him greater control over the allocation of capital on his estates. Neither sharecropping nor any other form of land tenure could protect Pliny completely against the danger of his tenants having to choose between paying rent and maintaining valuable capital, any more than they could protect his tenants against the dangers of a poor harvest. But sharecropping did reduce this likelihood, and so offered advantages to Pliny not possible under the traditional system of leasing.

We can appreciate how important it was for Pliny to maintain the productive capacity of his tenants when we consider that the adoption of sharecropping imposed heavy managerial costs that Roman landlords sought to avoid. The landlord leasing on a share basis not only has to enforce the obligation of the tenant to pay a full share of his harvest as rent (in spite of the efforts of the tenant to avoid paying rent by hiding his crop), but also has a vital interest in the size of the harvest itself.<sup>73</sup> Pliny clearly recognized this aspect of sharecropping, for he argues that the severity of the debt problem on his estates required a radical solution in spite of the disadvantages of greater managerial costs (9.37.3–4): *occurrentum ergo augescens vitiis et medendum est. medendi una ratio, si non nummo sed partibus locem ac deinde ex meis aliquos operis exactores, custodes fructibus ponam. et alioqui nullum iustius genus redditus, quam quod terra caelum annus refert. at hoc magnam fidem acres oculos numerosas manus poscit. experiendum tamen et quasi in veteri morbo quaelibet mutationis auxilia temptanda sunt.*

Pliny's intention of employing *operis exactores* indicates that from now on the task in managing his tenants would be far more complicated. He not only had to influence how they invested in improvements on their land, but also had to direct how they applied their resources to existing crops.<sup>74</sup> The less frequent need to renegotiate leases might have lessened the higher costs of sharecropping by reducing transaction costs, but it is clear that sharecropping involved Pliny in considerable trouble and expense.

The problems that Pliny encountered on his estates and the considerations that

<sup>73</sup> On the enforcement of sharecropping contracts, see CHEUNG, *The Theory of Share Tenancy*, 27–29, 76–79.

<sup>74</sup> P. W. DE NEEVE, *Colon et colon partiaire*, *Mnemosyne* ser. 4, 37, 1984, 125–42, especially 141, argues that in sharecropping the tenant becomes more economically dependent on the landlord than when the tenant leases for a fixed rent, especially for the landlord's contribution of capital. But the relative dependence of tenants on their landlords is not a function of the form of land tenure so much as of the relative bargaining power of the two parties.

led to his ultimate solution reveal how dynamic relationships with their tenants affected the ability of Roman landowners to exploit their estates. Pliny sought to promote his economic security by making his investments in agriculture as risk-free as possible, but the chronic shortage of labor and capital stymied in his efforts to achieve this goal. The bargaining power of his tenants thus forced Pliny to sacrifice one economic good in order to obtain another, and the institution of share cropping accordingly represents Pliny's effort to preserve what was most advantageous for him from the traditional system of leasing, namely the continued investment of labor and capital on the part of his tenants.

The problems that Pliny encountered on his estates may in some degree have generally affected large estates divided into tenancies, at least in such areas as Umbria and Tuscany where other upper-class landowners possessed estates occupied under similar conditions.<sup>75</sup> But it is not likely that other landowners quite so readily adopted Pliny's solution of instituting sharecropping.<sup>76</sup> The higher costs of management imposed by sharecropping suggest that it was a solution that only a landowner taking a relatively active interest in his estates might adopt. But even if Pliny's solution to the problems affecting his landed property cannot be viewed as typical, the concerns that he exhibited in addressing them help to illustrate how difficult it was for Roman landowners to adapt existing social and legal institutions to serve the most important economic goals of their class.

*Department of Classical Languages*  
*Tulane University*  
*New Orleans, Louisiana 70118*  
*USA*

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<sup>75</sup> For the view that Pliny confronted an agricultural depression; see most recently JOHNE, in Kolonen, 140 f.; cf. FINLEY, in *Studies in Roman Property*, 112. J. PATERSON, *Salvation from the Sea: Amphorae and Trade in the Roman West*, JRS 72, 1982, 152–53, argues on the basis of amphorae evidence for a decline in Italian viticulture in the first century AD. This traditional view is called into question by TCHERNIA, *Le vin de l'Italie romaine*, 197–299, especially 260 f.; for a similar conclusion see PURCELL, JRS 75, 1985, 9–13. For general discussion of the decline of the villa-economy in Italy, see D. W. RATHBONE's review of the work of the Gramsci Institute in JRS 73, 1983, 160–68, especially 162–65.

<sup>76</sup> Sharecropping is not prominent in the legal sources, but in his discussion of *vis maior*, Gaius (Dig. 19.2.25.6) mentions sharecropping in terms indicating that it was a characteristic if not widespread form of land tenure in Italy. On the basis of Columella's discussion of leasing (1.7.1–2), BALOGH, in *Studi in onore di U. E. Paoli*, 45 note 6, and FRIER, ZRG 96, 1979, 219 note 78 argue for the predominance of cash rents in early imperial Italy. For the possibility that Pliny was inspired by the imperial policy of promoting sharecropping in Africa, see SIRAGO, *L'Italia agraria sotto Traiano*, 168 f., who compares the sharecropping system envisioned in Dio of Prusa's seventh or Euboean oration.

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