Quantifying Literacy in the Early Roman Arsinoitês: the Case of the *Grapheion* Document

URI YIFTACH

In Ptolemaic, Roman and Byzantine Egypt, parties to transactions documented by a written contract were often required to authenticate in their own hand the terms of the contract. The section in the document in which they did so

1 The present paper was written in connection with the project *Synopsis: Data Processing and State Management in Early Roman Egypt* (31 BCE-284 CE), held in collaboration with Professor Andrea Jördens of the Institut für Papyrologie at the University of Heidelberg and sponsored by the German-Israeli Foundation for Scientific Research and Development. It was originally presented in the 27th Congress of Papyrologists, Warsaw 29.7.-3.8.2013. A modified version was held in a lecture delivered on 4.8.2014 at Tel Aviv University. I thank the two anonymous readers for their diligent work and highly enriching comments.

2 Drawing evidence from documentary papyri about levels of literacy among Greeks and Romans in eastern Mediterranean lands began to occupy historians at about the time that papyri themselves were first being unearthed in Egypt. The early study by Ernst Mayer-Leonhard in 1913 did not stimulate much interest, nor did a second discussion by Rita Calderini in 1950. It was only with a series of publications by H.C. Youtie between 1966 and 1975 (1966, 1971a, 1971b, 1975a, 1975b, 1975c), that the study of literacy as evidenced in the papyri from Roman Egypt became more sophisticated and began to interest a wider audience. Finally, the publication of *Ancient Literacy* by Harris (1989), an Italian resumé of which was published in 1988, aroused heated debate as to what the likely levels of literacy were in antiquity; what preconditions were necessary for literacy; what factors were likely to have influenced its enhancement or decline; how reading and writing were taught to children. Detailed and useful discussion of scholarship on literacy published since the appearance of Harris’ book, is provided by Werner 2009, especially at 343 [bilingualism], 345 [Egypt], 347 [literacy/illiteracy], 349 [Oxyrhynchus].
was termed hypographê. Since not all contracting parties were literate, the authentication could be written by another, provided that the document explicitly noted that this was the reason for inserting an additional individual into the transaction. The number of contracts recording the hypographê—no less than 1350 legal documents with this clause are currently registered in the databank synallagma—is adequate to sustain an investigation into literacy levels among those inhabitants of Ptolemaic, Roman and Byzantine Egypt who habitually made use of writing for their contractual agreements, whether they themselves were literate, or were illiterate and of necessity employed a literate scribe. The object of this paper, then, is to canvass the 316 hypographai written to authenticate provisions of contracts during the first three centuries CE of Roman rule at the public office for written records called the grapheion.

The practice of inserting hypographai into contracts is already attested early in the Ptolemaic period. From the early second century BCE onward, parties to contracts recorded as double documents customarily confirmed in their own hand the contract’s terms. The text of the hypographê was short in these days, about 10 to 15 words of a very simple sentence, and the intended users of the contract, Greek men, were expected to qualify. This is frequently the case, although by no means always so: in roughly half the cases—eight out of a total of nineteen—the parties to the contract require another person to write their hypographê. As early as the Ptolemaic period, then, the double

---

3 WOLFF 1978, 164-166; DEPAUW 2003, 89-105.
5 http://synallagma.tau.ac.il/ArtLogon.aspx?project=GLRT&username=u_hypographe+general-2&password=UQVVDQUABUGHOSMWIYKL
7 The autograph confirmation is already inserted into some third century documents (P.Sorb. I 17, scr. ex. 21-25, 257 BCE, Mermetha) and perhaps even earlier (Athens, fourth cent. BCE, [Dem.] 35.15.3), but seems to become a regular component of the double document around 170 BCE at the latest. Cf. P.Tebt. III.1 818 (174 BCE, Trikômia), and also P.Mich. III 183 which is the hypographê of no. 182 (183 BCE, Arsinoïtes).
8 This assumption is based largely on the text of BGU XIV 2367 (III BCE, Alexandria), a regulation regarding, inter alia, the nomenclature for parties to contracts recorded in double documents: all except citizens of Alexandria were required to supply the name of their patris, that is, a polis or region in the Hellenistic Greek world from which they originated. I study the phenomenon in detail in YIFTACH-FIRANKO 2014a. On literacy and Greek paideia in Ptolemaic Egypt, cf., e.g., THOMPSON 1994, 75-78; P.Count., 124-133.
9 Autograph hypographê: BGU VI 1271 (180-145 BCE, Philadelphia or Theadelphia); XIV 2390
document could be employed by an illiterate with the assistance of someone else able to write.

Once we approach the early Roman *grapheion* the data become sufficiently abundant to provide a statistically more reliable picture. As shown in Chart 1 below, illiteracy is not merely an option; it is now the rule. This proved to be true for almost every type of document I surveyed, both Roman and Byzantine. Almost three-quarters of the extant hypographai written up at a *grapheion*, that is, 235 out of a total of 316, were not composed by the contracting party him- or herself, but by another individual who was able to write. Expressed another way, from the total of 316 no more than 81 individuals were literate and wrote the hypographê in their own hand. The chart also draws attention to one probable cause of the apparent dip in the level of literacy: women are now more in evidence and they comprise no less than about one-third of the authors of hypographai, yet few indeed are capable of authenticating hypographai with their own hand—only seven out of 104. Among men the ratio is 1 out of 3.

The levels of literacy also vary depending on the community in which the document was drawn up—metropolis or village, large village or small: see Chart 2 below. Among the 19 men who incorporate their own hypographê into documents written up at the *grapheion* in Ptolemais Euergetis, capital of the Arsinoite nome, as many as eight are authored by the contracting party. This is not sufficient evidence for statistical purposes, but evidentiary material from Tebtynis is, and with its remarkably similar literacy rate, gives us a larger number—29 out of 66 are able to write the authenticating hypographê for themselves. Quite a different picture is provided by source material from So-
knopaiou Nēsos, for in that village women and men alike are overwhelmingly illiterate: just one male out of the 28 who were contracting parties recorded in a grapheion document at Soknopaiou Nēsos writes his own hypographê in person.\textsuperscript{12} Similar figures can be given in the case of women.

Another key factor is the length of the hypographê being written: see below, Chart 3. As indicated earlier, the text of a Ptolemaic hypographê tends to be short, measuring some two lines with ca. 10-15 letters of text.\textsuperscript{13} Such hypographai are also well attested among documents composed at grapheia in the Roman period, and the literacy rate exhibited in them, insofar as men are concerned, is even higher than the Ptolemaic results. One of every two short hypographai written by a man was drafted by the contracting party himself.\textsuperscript{14} But in the Roman grapheion, short hypographai account for no more than one-third of the total. When we approach a subsequent length-group in which the hypographai consist of four to six lines, the literacy rate drops to slightly above 25\%. This is also the case when the hypographê becomes even longer: 27\% in hypographai measuring seven to nine lines, and slightly less than one-quarter in contracts measuring 10 lines or more. According to this analysis, while 50\% of all men were able to draft a modest-size hypographê on their own, only one-quarter were capable of doing so once the amount of text became significantly longer. We are no doubt looking at the slow writers (βραδέως γράφων/γράφουσα), a group studied by H.C. Youtie forty years ago, making use of particular test cases.\textsuperscript{15}

The above figures are surprisingly high. Were we to rely on D. Rathbone’s figures for the Ptolemaic period, 36,500 adult males,\textsuperscript{16} as indicative of the size of the population in the Roman period as well, we could postulate the availability of as many as 8,500 ‘real’ literates, that is persons who were able to draft a Greek text of considerable size. This high figure is of far reaching cultural ramifications, for example for a study of the breadth and depth of Helleniza-

\begin{itemize}
  \item \textsuperscript{12} Cf. Samuel 1981, 396-397; Jördens 2005, 48 with n. 25. Methodologically important is Hanson 1991, 178-179.
  \item \textsuperscript{13} Cf. supra, p. 260.
  \item \textsuperscript{14} Remarkably similar results were reached by Steinmann 1971, in particular 357.
  \item \textsuperscript{15} E.g. Youtie 1971b, with an account of the contractual parties designated as slow writers in the documents, as well as those who can be assigned to that same category on palaeographic grounds. Cf. also, more recently, Kraus 1999, 89-90.
  \item \textsuperscript{16} Rathbone 1990, 113.
\end{itemize}
tion in the Arsinoite nome during the early Roman period. A high number of literates could also be significant for the study of provincial bureaucracy at various levels. Smooth functioning of the provincial government was based on the continuous circulation of information, in particular, the myriad reports about population, property, and revenue that flowed from one bureau to another throughout the nome.\(^\text{17}\) Those who crafted the various reports needed to be in possession of basic arithmetical and measuring skills, to be competent in tachygraphy, as well as to be acquainted with the highly diversified terms used for the categorization of land, revenues and population in the early Roman period. If the above 8,500 literates were competent, or at least could be made competent within reasonable time to issue these reports, then it is perhaps possible to arrive at an approximation of the pool from which scribes and other skilled personnel could be drawn.\(^\text{18}\)

This would however be the case only if we could establish: (a) that data provided by the *grapheion* documents accurately represent the population of the nome under scrutiny and (b) that all those who were able to write a long passage also possessed the requisite skills to produce a legible text of reasonable quality. I shall start with the first question: to what extent are the data provided by the *grapheion hypographai* representative of literacy levels in the population of the Arsinoite nome in general? A useful comparandum comes from the *hypomnēma*, an application for lease, commonly of land, addressed by the lessee to the lessor, which became the default instrument for the documentation of land leases in the first century Arsinoitês and remained popular through late antiquity.\(^\text{19}\) Into these documents, the lessor, and at times the lessee, inserted his *hypographē*. What they wrote was quite short, about the same size as the texts written out in their own hand by more than half of the

\(^{17}\) A useful tool for the study of offices attested in a given village during the Roman period is provided by Calderini & Daris 1935–, e.g., IV 381-382 (Tebtynis) as well as, more recently, Benaissa 2012, e.g., 93-100 (Thōlthis).

\(^{18}\) How many scribes were required for the operation of state bureaucracy in the Roman period? Take, for instance, one routine functionary, the *sitologos*. Sitologoi are attested in the Roman period in as many as 72 Arsinoite villages, and their number was probably many times larger, perhaps twice as many. Assuming a total of four *sitologoi* per village, and their accompanying scribes (cf. Oertel 1917, 251-252), the number of literates required for the maintenance of that office in the villages of the nome may well rise as high as 600. If similar numbers are assumed in the case of the *praktoreia*, the *kômogrammateia*, as well as those engaged in other permanent, nome-wide bureaux, special committees, offices of the *stratȇgoi*, basilikoi *grammateis*, the various archives, as well in the city administration, the total may even be greater than 3,000, to which should be added those active in the management of the private estates (cf., most recently, Kruse 2012). Evidence on the number of scribes occupied by different officials is scattered in publications of their archives. Cf., e.g., P.Petaus, p. 22-39. On the importance of writing for the functioning of Roman bureaucracy cf., e.g., Kelly 1994, 164-165.

men in the grapheion documents. Yet hypomnêmata convey different literacy rates. As one might expect, male lessors are overwhelmingly literate, and even among women lessors the literacy rate surpasses what we see in grapheion documents.\textsuperscript{20} In the case of the lessees the picture is reversed, as only one-third wrote out for themselves their own hypographê. Among the users of the grapheion document, we recall, the rate seems to be 1:2.\textsuperscript{21}

I am not convinced that data provided by the hypomnêmata are any more representative than those derived from the grapheion documents. In the case of hypomnêmata, the lessees and the lessors belong, for the most part, to two different socio-economic groups, and this easily accounts for the difference in their rates of literacy: that is, the lessee is a farmer, a member of the rural population in the nome, while the lessor is frequently a land owner, commonly a member of the municipal elite or another privileged population group.\textsuperscript{22} That being the case, the hypomnêmata do not offer a more accurate picture of the general level of literacy than that provided by the grapheion document. But taking this dataset into consideration is methodologically important, for it shows that a closer analysis of the social standing of parties to grapheion documents is needed before those data can be treated as representative of the nome’s population as a whole.\textsuperscript{23}

\textsuperscript{20} In hypomnêmata of leases during the first three centuries CE, a woman lessor adds the hypographê in 19 cases, of which 13 penned their own hypographê in person. Only in six instances is a woman said to be illiterate. Among men the rate was 28:1.

\textsuperscript{21} Unique to this group, and symptomatic of the high level of illiteracy among its members, is the writing up of the tenant’s scars, moles, and other identifying features. The physical description identifies the person and functions as a substitute for the hypographê; the formula εἰκονίσθησαν φάμενοι μὴ εἰδέναι γράμματα, appended to the description only occasionally, is an overt attestation of its function. Cf., e.g., P.Mich. XII 631.18 (185 CE, prov. unknown). Literacy rates similar to those of lessees in the hypomnêmata are in evidence in documents relating to δημόσιοι γεωργοί. Cf., e.g., P.Berl.Leihg. 29 (164 CE, Lagis).

\textsuperscript{22} In P.Mil.Vogl. VI 288 (155 CE, Tebtynis), the lessor, Pasigenês son of Sabinus alias Nonnus, a kosmêtês, perhaps in the city of Ptolemais Euergetis, leases out 13 arouras of land to Paôpis and Orseus, both sons of Kroniôn and grandchildren of Orsephouphis, residents of Tebtynis: the lessor and his male ancestor bear Greek names, the lessees, native names, some of which, like the Greekish Kroniôn, have equivalents in Egyptian (Pakebkis). While one should resist generalizations, this example from Tebtynis can, I think, be treated as paradigmatic, both with regard to the names of the parties involved, as well as their domicile, and socio-economic status. Cf., cautiously, Herrmann 1958, 59; Rowlandson 1996, 266-272.

\textsuperscript{23} Villages in which grapheia evolved tended to be bi- or even multicultural, cf., e.g., P.Dime, pp. 114-115. I am unfamiliar with attempts to probe the socio-economic profiles of transacting parties, but it would be useful. Such a study naturally begins with the value of the transactions, as recorded, for example, in the anagraphê lists from the grapheion in early first-century Tebtynis, published in the second and fifth volume of the Michigan papyri. A survey of some of these lists (P.Mich. II 123-128, V 238-240, 45-49 CE), highlights some 460 entries spelling out the value of the transaction, among which in 259 the value of the transaction exceeds 100 drachmas, 347 in which it exceeds 50, and 385 in which it exceeds 30 drachmas. The wealth represented by these three grapheion records
The second question relates to the ability of the 25% of the male users of the *grapheion* documents who draft their own *hypographai* to qualify as authors of texts such as the abovementioned reports, that require a more advanced degree of expertise. To answer this question we need to address not only the length of the *hypographê*, but also its quality and legibility, as I did in the case of twenty-two documents whose *hypographai* extend over six lines of text or more. Among these twenty-two *hypographai*, in the case of nine the text is not only long, but also written flawlessly from an orthographic point of view. In these cases, the parties also tend to exhibit Greek names and patronyms so that one can assume that they had enjoyed at least some degree of Hellenic *paideia*. Yet seven long *hypographai* do have some mistakes, and five are heavily freighted with error. The writers of these texts, who tend to have Egyptian names, were probably exposed to some minimal education, and acquired most of their Greek as a spoken language. I do not think that members of this latter group would qualify as skillful scribes and authors of reports, or for that matter, of any other type of sophisticated documentation seems to give evidence of a local bourgeoisie, rather than of a multi-layered society.

24 Flawless text in the following examples: P.Athen. 14 (22 CE, Philadelphia); P.Corn. 6 (17 CE, Oxyrhynchus); P.Mil.Vogl. II 78 (138/9 CE, Tebtynis); P.Ryl. IV 601 (26 BCE, Ptolemais Euergetis); SB VI 9109 (31 CE, Tebtynis); VIII 9642 (117-137 CE, Tebtynis). Minor mistakes in CPR I 223 (117-137 CE, Ptolemais Euergetis); P.Fam. Tebt. 22 (122 CE, Tebtynis); P.Gen. I 8 (141 CE, Dionysias); P.Mich. X 583 (78 CE, Bacchias); P.Tebe.Tait. 49 (89 CE, Ptolemais Euergetis); PSI VIII 908 (42/3, Tebtynis); SB VIII 9642 (139-161 CE, Tebtynis); XXII 15613 = P.Sel.Warga 7 = P.Tebe. II 529 desc. (111 CE, Tebtynis).

25 Texts written with infelicities and some mistakes: P.Mich. V 263 (35/6 CE, Tebtynis); V 339 (46 CE, Tebtynis); P.Tebe. II 390 = MChr 251 (167 CE, Tebtynis), and to a lesser degree P.Mich. V 254 (29/30 CE, Arsinoitês) with a copy in no. 255; P.Mich. V 258 (32-4 CE, Arsinoitês); P.Mich. V 305 (1 CE, Arsinoitês); P.Mich. V 331 (41 CE, Arsinoitês); P.Mich. V 341 = PSI VIII 904 (46/7 CE, Tebtynis) with a copy in no. 340. The text of P.Mich. V 263:34-39 illustrates the type of morphological idiosyncrasies being listed here; many are likely to be caused by the scribe’s faulty pronunciation of the Greek: interchange of omikron and omega (e.g., l. 29: χῶμα for χῶμα; l. 24: ωμωλωγῶ for ὠμολογῶ), epsilon for alpha (e.g., l. 26: ειείκονα for ἵεικονα), upsilon for omicron (e.g., l. 28: υπεραγικον for ὑπεραγικον). For an analysis of the social and cultural implications of idiosyncratic morphology, cf., e.g., bücken 2007; Keanan 1988, 163-164. Note also a caveat by Curchn 1995, 467.

26 The said phenomenon is discussed, in a different context, by Hoz 2006.
requiring texts of high quality, such as, to take another outstanding example, petitions.\textsuperscript{27}

But the hypographai seem to tell a different story. As indicated at the beginning of this paper, the hypographê was first required in double documents in the Ptolemaic period. Yet it was also acknowledged even then that some contracting parties might not be able to write the hypographê in person, so they were allowed to have the document composed by another individual, provided that illiteracy was explicitly stated as the reason why another party was introduced into the transaction. The same rule applied to the Roman grapheia, where the position of the literate bystander was institutionalized: in the specialized context of the grapheion document, the literate bystander was now officially installed; he was called hypographeus and was carefully identified alongside the other parties at the end of the contract.\textsuperscript{28}

Another way to alleviate the problem of illiteracy was to redefine literacy itself, so it would apply to as many potential parties to contracts as possible. One way of reaching this goal was to allow parties to compose the hypographê in any language they wished: this is in fact the case in the documents from the Judaean desert during the early second-century CE, where parties compose the hypographê in their mother tongue, adding the hypographê in Aramaic or Nabatean directly to the Greek body of the document.\textsuperscript{29} In Egypt, however, the rule was different: the language of the hypographê had to be Greek,\textsuperscript{30} but any type of Greek text would do, regardless of its morphological quality or legibility, and the author of virtually any text, even one barely understandable and riddled with errors, was accepted as someone who knew letters, γράμματα εἰδώς/εἰδυῖα. Thus, with the number of literates stretched to the maximum

\textsuperscript{27} Bagnall & Cribeor 2006, 42: “… a study of scribal hands according to provenance, destination, and type of document is still a desideratum.” A complete list of available petitions is now available the databank Synallagma: Greek Contract in Context (http://synallagma.tau.ac.il/?project=glrt&username=guest&password=guest). Cf. also Bucking 2007.

\textsuperscript{28} The earliest safely identifiable document with a hypographeus is P.Mich. V 251 (19 CE, Talei). The term was applied in the context of the grapheion only. Cf., primarily, Youtie 1975b; Hanson 1991, 164; Kraus 2000, 325-328.

\textsuperscript{29} Cf., e.g. P.Yadin 17 and Cotton 2003.

\textsuperscript{30} Cf. primarily, Youtie 1975a, 104; 1971a, 162-163; 1971b. The use of the Demotic hypographê is attested long after Demotic ceased to be a routine vehicle for documenting contracts, replaced by Greek. Cf., e.g., BGU III 910, col. 1.11 = P.Dime III 31 GH and 2.44 = P.Dime III 31 GD (70 CE, Soknopaiou Nênos); CPR XVIib 13.7-16 l. 16 (217/8 CE, Panopolis); P.Ryl. II 161.22 (81 CE, Soknopaiou Nênos); P.Vind.Tand. 26. 21 (143 CE, Soknopaiou Nênos); P.Vind.Worp. 10.18-19 (143/4 CE, Soknopaiou Nênos ?); SB XVI 12954.16 = P.Ryl. II 329 descr. (116 CE, Arsinoitês); 12957 = P.Lond. II 292 descr. (103-114 CE, Soknopaiou Nênos). On the expectation that the hypographê would be drafted in Greek, cf., in particular, SB I 5117.6 = P.Dime III 29 (55 CE, Soknopaiou Nênos): διὰ τὸ μὴ εἰδέναι αὐτόν γράμματα Ἑλληνικά, ἀλλὰ Αἰγύπτια γράφει. Cf. also Youtie 1975a; Hanson 1991, 164.
and an inclusive definition of literacy squeezed to the minimum, in the society in which an incompetent writer lived he was nonetheless classified among the literates, able to assist others in writing their own hypographai. Should the text being written have a different purpose, however, as one to be sent to a high government official capable of redressing some grievances suffered, those with limited experience and skill in writing with reed pen and papyrus were forced to find a flawless writer.

To sum up: hypographai to legal documents were meant, in Ptolemaic, Roman and Byzantine Egypt, to be written by the contracting parties themselves. If they were not, this fact would be stated in the text of the hypographê. Counting the autographs and allographs among the more than 1300 hypographai of legal documents that have come down to us thus accords us a unique means of assessing the level of literacy in Greco-Roman Egypt. The figures I discussed here relate to hypographai from grapheion documents from the first three centuries CE. An analysis of these figures has shown that the level of literacy of a given party was affected by his gender, place of residence, and the length of the required text. Two figures of interest that were mentioned in the foregoing discussion are that 50% of the male users of the document were able to write some text, and 25% were able to write a longer text.

Both features are significant for the question of the extent of Greek education in the Egyptian chorâ. Especially the latter figure, the one quarter of the users who are able to write long texts, agrees with the abovementioned research focusing on the structure and contents of reports from late Ptolemaic and Roman Egypt. Such a high number of literates could be used as an inexhaustible pool from which potential scribes would be recruited who could serve the local administration by continuously producing these reports. The actual pool, however, was probably considerably smaller. It is questionable whether the data provided by the grapheion documents is representative of the population in general, and even if it is, the number of those who could write long Greek texts flawlessly was considerably smaller, amounting to no more than 10% of the male population of the nome. A detailed analysis of the social background and standing, and, in the bureaucratic context, training process of this manpower is now to be desired.
### CHARTS

1. **Literacy Rate in the Early Roman Grapheion (I-III CE):**

<table>
<thead>
<tr>
<th></th>
<th>Literate</th>
<th>Illiterate</th>
<th>Total</th>
<th>Literacy Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Men</strong></td>
<td>74</td>
<td>138</td>
<td>212</td>
<td>34%</td>
</tr>
<tr>
<td><strong>Women</strong></td>
<td>7</td>
<td>97</td>
<td>104</td>
<td>6.7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>81</td>
<td>235</td>
<td>316</td>
<td>25%</td>
</tr>
</tbody>
</table>

2. **Literacy Rate in the Early Roman Grapheion (I-III CE), by Location:**

<table>
<thead>
<tr>
<th>Location</th>
<th>Literate</th>
<th>Illiterate</th>
<th>Total</th>
<th>Literacy Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ptolemais Euergetis</td>
<td>8</td>
<td>11</td>
<td>19</td>
<td>42%</td>
</tr>
<tr>
<td>Tebtynis</td>
<td>29</td>
<td>37</td>
<td>66</td>
<td>43%</td>
</tr>
<tr>
<td>Soknopaiou Nêso</td>
<td>1</td>
<td>27</td>
<td>28</td>
<td>3.5%</td>
</tr>
</tbody>
</table>

3. **Literacy Rate in the Early Roman Grapheion (I-III CE), by Length of the Hypographê (Men Only):**

<table>
<thead>
<tr>
<th>Number of lines</th>
<th>Literate</th>
<th>Illiterate</th>
<th>Total</th>
<th>Literacy rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 3</td>
<td>36</td>
<td>34</td>
<td>70</td>
<td>51%</td>
</tr>
<tr>
<td>4 to 6</td>
<td>19</td>
<td>47</td>
<td>66</td>
<td>29%</td>
</tr>
<tr>
<td>7 to 9</td>
<td>10</td>
<td>27</td>
<td>37</td>
<td>29%</td>
</tr>
<tr>
<td>10 or more</td>
<td>9</td>
<td>30</td>
<td>39</td>
<td>23%</td>
</tr>
<tr>
<td>3 or more</td>
<td>38</td>
<td>104</td>
<td>142</td>
<td>27%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>74</td>
<td>138</td>
<td>212</td>
<td>35%</td>
</tr>
</tbody>
</table>

4. **Literacy Rate in the Arsinoite Lease Hypomnêmata (I-III CE):**

<table>
<thead>
<tr>
<th></th>
<th>Literate</th>
<th>Illiterate</th>
<th>Total</th>
<th>Literacy Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lessees, Men</td>
<td>25</td>
<td>52</td>
<td>77</td>
<td>32%</td>
</tr>
<tr>
<td>Lessors, Women</td>
<td>13</td>
<td>6</td>
<td>19</td>
<td>68.5%</td>
</tr>
<tr>
<td>Lessors, Men</td>
<td>28</td>
<td>1</td>
<td>29</td>
<td>96%</td>
</tr>
</tbody>
</table>
BIBLIOGRAPHY

BAGNALL & CRIBiore 2006
R.S. Bagnall, R. Cribiore, 

Benaissa 2012
A. Benaissa, Rural Settlements of the Oxyrhynchite Nome, 
A papyrological survey, Trismegistos Online 

Bowman & Woolf 1994
A.K. Bowman, G. Woolf (eds.), 

Bucking 2007

Calderini & Daris 1935-
A. Calderini, S Daris, 
Dizionario dei nomi geografici e topografici dell’Egitto greco-romano, Milan 1935-.

Calderini 1950
R. Calderini, “Gli Ἀγράμματοι nell’Egitto greco-romano”, 
Aegyptus 30, 1950, 14-41.

Claytor 2013

Cole 1981
S.G. Cole, “Could Greek Women Read and Write?” in: 

Cotton 2003
H.M. Cotton, “‘Diplomatics’ or External Aspects of the Legal Documents from the Judaean Desert: Prolegomena”, in:


Cribiore 2002

Curchin 1995

Depauw 2003

Harris 1988

Harris 1989

Hanson 1991

Herrmann 1958
J. Herrmann, Studien zur Bodenpacht im Recht der graeco-aegyptischen Papyri, (MBRG 41), Munich 1958.

Hetz 2006

Ilan 2005
T. Ilan, “Learned Jewish
JORDENS 2005

KEENAN 1988

KELLY 1994

KRAUS 1999

KRAUS 2000

KRUSE 2012

MAJER-LEONHARD 1913

MANO 2008

OERTEL 1917

RATHBONE 1990

ROWLANDSON 1996

SAMUEL 1981

STEINMANN 1971

THOMPSON 1994

WERNER 2009

WOLFF 1978

YIFTACH-FIRANKO 2007

YIFTACH-FIRANKO 2014a

YIFTACH-FIRANKO 2014b
U. YIFTACH-FIRANKO, “Evolution of Forms of Greek Documents of the Ptolemaic, Roman

Youtie 1966

Youtie 1971a

Youtie 1971b

Youtie 1975a

Youtie 1975b

Youtie 1975c