

The Chester Beatty Old Testament Papyri and the Communal Reading of Christian Scripture

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It is widely understood that many, if not most, early Christian manuscripts were produced for use in communal reading. Recent studies show that this view is supported by scribal number-writing techniques, which appear to be constrained by the need for clarity in pronunciation. Specifically, early New Testament scribes used alphabetic numerals in their body texts but only when these would be unambiguous to a would-be reader. This study examines the number-writing techniques found in the Chester Beatty Old Testament papyri and finds that they abide by the same principles of number writing as their New Testament counterparts (with one notable exception), a fact which sheds further light on the use of scriptural texts in early Christianity.

1. Introduction

It is widely understood that many, if not most, early Christian manuscripts were produced for use in communal reading.¹ “To judge from their hands,” observes Colin H. Roberts, “the earliest Christian books were essentially books for use,”² that is, to be read aloud in church

¹ There has been some debate about whether Christian texts were read aloud, recited from memory, or composed in performance. See, for example, Larry W. Hurtado, “Oral Fixation and New Testament Studies? ‘Orality,’ ‘Performance’ and Reading Texts in Early Christianity,” *NTS* 60 (2014): 321–40, and the response by Kelly R. Iverson, “Oral Fixation or Oral Corrective? A Response to Larry Hurtado,” *NTS* 62 (2016): 183–200. Hurtado’s rejoinder to Iverson can be found in the same issue. As I argue here, the evidence of number-writing indicates that many of these manuscripts were created for the purpose of being read aloud.

² Colin H. Roberts, *Manuscript, Society and Belief in Early Christian Egypt*, Schweich Lectures 1977 (London: Oxford University Press, 1979), 15. See also Larry W. Hurtado, *The Earliest Christian Artifacts: Manuscripts and Christian Origins* (Grand Rapids, MI: Eerdmans, 2006), 155–89, and Larry W. Hurtado, “Manuscripts and the Sociology of Early Christian Reading,” in *The Early Text*

gatherings. It is not simply the scribal hands of these manuscripts that suggest this was their intended function; scholars have observed in early Christian manuscripts many other helps to the reader that are noticeably absent (or comparatively so) from contemporary copies of the Greco-Roman classics.³ The presence of *ektheses* and sense divisions, for example, as well as lectional aids such as apostrophes, breathing marks, *diaereses*, and punctuation—even if included inconsistently—suggest that early Christian codices were designed to facilitate easy reading, the most likely context of which was group worship.⁴

Recent research shows that the scribal habits of number-writing also illustrate the way in which scribes made concessions to the reader. As I have recently argued elsewhere, the scribal use of Greek numerical shorthand in the body texts of early New Testament manuscripts appears to have been constrained by the needs of clarity in reading aloud.⁵ Copyists made frequent use of numerical abbreviations—such as β̄ for 2, ὀ̄ for 70, and so on—in place of their longhand counterparts (δύο and ἑβδομήκοντα respectively), but I argue that copyists carefully avoided using such figures when these would pose ambiguities to a would-be reader. For example, what should a lector pronounce when faced with the symbol ᾱ̄, which in the alphabetic numeral system could stand equally for εἶς, μία, ἕν, πρῶτος, or any of their inflected forms? While the general meaning of the symbol may be intelligible (and hence it is used frequently in documentary papyri), what is to be pronounced aloud by a reader is ambiguous. And so it comes as no surprise that early Christian copyists strictly avoided using ᾱ̄ in the body text of scriptural manuscripts.⁶

By focusing on communal reading, I do not mean to suggest that reader's aids would be irrelevant to or unhelpful for someone reading privately to oneself. They certainly would be, especially if such private reading was done aloud. Since, however, the frequency of silent reading in antiquity is debated, and since the reading of Christian Scripture in communal worship is widely agreed upon, my contention here is simply that such concessions to the reader would have been especially helpful for those reading aloud in groups of various sizes.⁷

Text critics are aware that early manuscripts of the Old Testament often contain numerical shorthand in their body texts, much like their New Testament counterparts.⁸ The purpose of

of the New Testament, ed. C. E. Hill and M. J. Kruger (Oxford: Oxford University Press, 2012), 49–62.

³ It is worth admitting at the outset that it is difficult to make confident assertions about the social context of particular manuscripts, given how little we know about their provenances and original circumstances. However, most scholars would recognize that early Christian manuscripts *as a group* bear certain characteristics that are consistent with the practice of communal reading. I suggest that numeral-writing is an additional piece of evidence to consider in this regard.

⁴ In addition to such textual features, one recent study points to a wide body of literary evidence for the widespread practice of communal reading in early Christian circles: Brian J. Wright, *Communal Reading in the Time of Jesus: A Window into Early Christian Reading Practices* (Minneapolis: Fortress, 2017).

⁵ Zachary J. Cole, *Numerals in Early Greek New Testament Manuscripts: Text-Critical, Scribal, and Theological Studies*, NTTSD 53 (Leiden: Brill, 2017), 198–223.

⁶ Cole, *Numerals*, 203.

⁷ For discussion about silent reading in antiquity, see Bernard M. W. Knox, “Silent Reading in Antiquity,” *GRBS* 9 (1968): 421–35; Frank D. Gilliard, “More Silent Reading in Antiquity: *Non Omne Verbum Sonabat*,” *JBL* 112 (1993): 689–94; A. K. Gavrilov, “Techniques of Reading in Classical Antiquity,” *CQ* 47 (1997) 56–73; and M. F. Burnyeat, “Postscript on Silent Reading,” *CQ* 47 (1997): 74–76.

⁸ For an explanation of how the alphabetic numeral system works, see Viktor E. Gardthausen, *Griechische Palaeographie*, vol. 2, 2nd ed. (Leipzig: Veit, 1913), 370.

the present study, however, is to test for the same phenomenon in some papyri of the Greek Old Testament (in particular, those of the Chester Beatty collection) and then to consider what implications this might have as regards the practical function of these manuscripts.

2. Numeral-Writing in Christian Manuscripts

Before examining the manuscripts themselves, it is necessary to describe briefly the number-writing techniques of early Christian scribes. For convenience, here is an outline of the alphabetic numeral system widely used by scribes in the Koine period:

Alphabetic Numerals					
$\bar{\alpha}$	1	$\bar{\iota}$	10	$\bar{\rho}$	100
$\bar{\beta}$	2	$\bar{\kappa}$	20	$\bar{\varsigma}$	200
$\bar{\gamma}$	3	$\bar{\lambda}$	30	$\bar{\tau}$	300
$\bar{\delta}$	4	$\bar{\mu}$	40	$\bar{\upsilon}$	400
$\bar{\epsilon}$	5	$\bar{\nu}$	50	$\bar{\phi}$	500
$\bar{\xi}/\bar{\zeta}^9$	6	$\bar{\xi}$	60	$\bar{\chi}$	600
$\bar{\zeta}$	7	$\bar{\omicron}$	70	$\bar{\psi}$	700
$\bar{\eta}$	8	$\bar{\pi}$	80	$\bar{\omega}$	800
$\bar{\theta}$	9	$\bar{\varphi}$	90	$\bar{\lambda}$	900

In this system, alphabetic numerals simply stand in place of their longhand counterparts (e.g., $\bar{\epsilon}$ ἄρτους καὶ $\bar{\beta}$ ἰχθύας = πέντε ἄρτους καὶ δύο ἰχθύας). Compound numbers are created by combining characters from different columns: for example, $\bar{\tau}\bar{\xi}\bar{\epsilon}$ = 365. Importantly, alphabetic numerals are also used for ordinal numbers (e.g., “first,” “second,” “third,” etc.) as well as for values in the thousands. Both uses are commonly found in documentary papyri of the period. When standing for thousands, the characters are given additional decoration to differentiate them from lower values: for example, while $\bar{\gamma}$ stands for “three,” scribes could write $\bar{\gamma}$ or $\bar{\gamma}$ (with or without the supralinear bar) to indicate 3,000 in shorthand.¹⁰

Most Greek numbers can be replaced by their alphabetic shorthand equivalents with no problems posed to a lector. Take, for example, the number “seven.” As with most other cardinal numbers, ἑπτὰ is indeclinable, which means that the spelling is the same for all grammatical cases and genders. Such consistency lends itself to predictability. In other words, the shorthand equivalent of ἑπτὰ, which is $\bar{\zeta}$, presents no ambiguities for a would-be lector. Consider the following sentence as an example: τῷ δὲ ἱερεὶ Μαδιαμ ἦσαν $\bar{\zeta}$ θυγατέρες (Exod 2:16). Since ἑπτὰ is indeclinable, its corresponding shorthand form $\bar{\zeta}$ is unambiguous in spelling and pronunciation. (Technically, $\bar{\zeta}$ is still somewhat ambiguous because it could stand either for ἑπτὰ or for the ordinal ἑβδομος. However—as shown below—since Christian scribes usually avoided shorthand for ordinal numbers, there is no real ambiguity.)

On the other hand, many numerical symbols are quite ambiguous as regards their pronunciation. As noted above, the number “one” (εἷς, μία, ἕν) is highly ambiguous. Because the

⁹ Although the letter stigma (representing “six”) is usually printed as $\bar{\varsigma}$, Christian scribes in this period usually wrote it like so: $\bar{\varsigma}$ (that is, exactly like the lunate *sigma* representing “two hundred”). In what follows, however, I use $\bar{\varsigma}$ for stigma to avoid confusion.

¹⁰ For a random example of this in documentary papyri, see P.Col. VII 128, ln. 9 <http://papyri.info/ddbdp/p.col;7;128>.

number “one” has a unique form for each gender and inflected forms for each grammatical case, it is not clear how a lector should pronounce $\bar{\alpha}$. Often there are no contextual clues that would help determine the appropriate case or gender; but even when such clues are present, they would be of little use. To take a random example:

ὅς ἐὰν οὖν λύσῃ μίαν τῶν ἐντολῶν τούτων ... (Matt 5:19a)
 “Whoever looses one of these commandments ...”

If the scribe replaced $\mu\acute{\iota}\alpha\nu$ with its shorthand equivalent $\bar{\alpha}$, the general meaning of the text would be reasonably clear. But to someone attempting to read the text aloud, its appropriate pronunciation would be uncertain. Specifically, how will the reader know that this must be a feminine form until *after he or she reads ἐντολῶν* which follows? And further, would it be obvious that an accusative form is required here? Similar instances of this abound in the New Testament (e.g., Matt 5:29, 36; 8:19; 10:42; 13:46; 18:6; etc.). In light of such ambiguity, it is unsurprising that New Testament scribes studiously avoided using shorthand in place of εἰς, μία, ἐν in manuscripts.¹¹ Furthermore, this strict avoidance of $\bar{\alpha}$ is all the more significant in light of its common occurrence in documentary papyri.¹²

Inflected cardinal numbers pose similar ambiguities. A handful of cardinal numbers are at least partially declinable, such as δύο, τρεῖς, and τέσσαρες. Often there would be no way for a would-be reader to know what form is appropriate. For example,

Καὶ ἐν μέσῳ τοῦ θρόνου καὶ κύκλῳ τοῦ θρόνου τέσσαρα ζῶα ... (Rev 4:6)
 “And around the throne and surrounding the throne are four creatures ...”

If τέσσαρα were abbreviated by a scribe to $\bar{\delta}$, there would be sufficient context to see from ζῶα, the noun it modifies, that the numeral must be neuter and nominative—but this is only clear *after the word ζῶα*. It would be too late for a lector to infer the correct pronunciation of $\bar{\delta}$. So, once again, the sense is reasonably clear, but the task of reading aloud becomes significantly more complicated and perhaps unrealistic (see also Matt 6:24; 26:61; Luke 13:7; John 11:17; 19:23; Acts 10:11). Thus, when it comes to declinable numbers, New Testament scribes tend to use shorthand only for lexical forms and write inflected forms in full.¹³

Ordinal numbers are especially problematic. Even though the alphabetic numeral system allowed for these forms to be abbreviated (as evident in documentary papyri¹⁴), New Testament scribes almost never do so.¹⁵ Once again, the reason for this avoidance seems to be that ordinals are fully declinable and thus potentially ambiguous if abbreviated to numerical shorthand. Note that πρῶτος, for example, has distinct forms for each gender, case, and number.

¹¹ Note that not a single New Testament manuscript dated before the sixth century contains any use of the shorthand for $\bar{\alpha}$ in its body text (i.e., not considering page numbers, stichoi, etc.): Cole, *Numerals*, 78, 125, and 203.

¹² For some random examples of the practice in documentary papyri, see P.Oxy. XIV 1657 lns. 2–4 <http://papyri.info/ddbdp/p.oxy;14;1657>; P.Oxy. XX 2287 lns. 1, 2, 4 <http://papyri.info/ddbdp/p.oxy;20;2287>; P.Oxy. XXIV 2424 lns. 6, 7, 8 <http://papyri.info/ddbdp/p.oxy;24;2424>; P.Oxy. XXXVI 2794 <http://papyri.info/ddbdp/p.oxy;36;2794>; and P.Oxy. XXXVI 2797 ln. 7 <http://papyri.info/ddbdp/p.oxy;36;2797>.

¹³ Cole, *Numerals*, 210.

¹⁴ For examples, see P.Oxy. I 108 <http://papyri.info/ddbdp/p.oxy;1;108>; P.Oxy. XII 1571, lns. 5, 6 <http://papyri.info/ddbdp/p.oxy;12;1571>; P.Oxy. XXXIV 2710, lns. 8, 9 <http://papyri.info/ddbdp/p.oxy;34;2710>; P.Oxy. LXXII 4860, ln. 4 <http://papyri.info/ddbdp/p.oxy;72;4860>; and P.Oxy. LXXIV 4994 lns. 3, 16, 20 <http://papyri.info/ddbdp/p.oxy;74;4994>.

¹⁵ On very rare occasions, some New Testament scribes resort to shorthand for ordinal numbers. See, for example, the exceptional cases in P^{47} and D 05 (Cole, *Numerals*, 47–48, 105).

A fourth and final category is values in the thousands. While documentary papyri regularly contain shorthand forms for numbers in the thousands, copyists of early New Testament manuscripts rarely use these because they stand for declinable words and are therefore ambiguous in pronunciation (e.g., διςχίλιοι, -ων, -ου, -οι). However, an interesting phenomenon appears in New Testament manuscripts that seems to confirm this hypothesis. Many copyists opted to abbreviate values in the thousands, *but only partially*, creating a kind of “hybrid abbreviation.” For example, at one point the scribe of P⁴⁷ writes χειλιαδεσ ζ̄ (Rev 11:13). Significantly, the scribe is happy to use the shorthand form ζ̄ for the indeclinable ἑπτα, but opts for the longhand χειλιαδεσ, which has a full set of inflected forms. This effectively shortens the word and leaves no ambiguities to the reader. Many New Testament scribes use this method.¹⁶

In summary, while the alphabetic numeral system is used widely and flexibly in contemporary documentary papyri, New Testament scribes used it in a notably restricted way. Specifically, they studiously avoided using shorthand for the following four groups:¹⁷

- the number one (εἷς, μία, ἕν);
- inflected number forms (such as δυεῖν or τεσσαρων);
- ordinal numbers (such as πρωτος or δευτερος);
- numbers in the thousands (such as διςχίλιοι).

Finally, some additional confirmation of this hypothesis comes from the observation of an analogous and better known phenomenon in Christian manuscripts: the *nomina sacra*, the scribal contraction of divine names. Surely it is significant that for all of its variable practice among early manuscripts, the most dominant scribal method of this abbreviation is that of contraction rather than suspension.¹⁸ In particular, the act of contracting the genitive form Ἰησοῦ to ἰω̄ (for example) is readily understandable to a would-be lector—with sufficient awareness of the practice—because the case-specific ending is explicitly written. However, even a reader who was aware of the general practice of the *nomina sacra* would be posed with several different options for pronunciation if faced with a suspended form such as ἰη̄ (= Ἰησοῦς, Ἰησοῦ, or Ἰησοῦν?). It is no wonder, therefore, that this method of writing the *nomina sacra* is extremely rare,¹⁹ even as the most common method of abbreviation in ancient Greek writing was suspension *not* contraction.²⁰ The reason for this difference in practice in Christian manuscripts once again seems to be the need for clarity in pronunciation.

3. Numerals in the Chester Beatty Old Testament Papyri

The four principles of number-writing described above are found in early New Testament manuscripts, but there has been no similar investigation of Old Testament manuscripts. The goal in what follows is therefore to analyze the use of numerals, both longhand and shorthand,

¹⁶ See, for example, P⁴⁷ (Rev 11:13; 14:1, 3), A 02 (Rev 7:4), and D 05 (Acts 4:4).

¹⁷ Technically, these groups overlap, since ones, thousands, and ordinals could all be considered “inflected number forms.” However, as will become clear, it is helpful to treat them separately.

¹⁸ Contraction is the removal of letters from the middle of the word (e.g., θεός → θε̄ς) whereas suspension is the removal of letters from the end of a word (e.g., θεός → θε̄).

¹⁹ P.Beatty I, or P⁴⁵, is the best known papyrus that routinely uses ἰη̄ as the *nomen sacrum* for Jesus, but it uses the more common contractions for the other sacred names (with one exception in Acts 16:18). A. H. R. E. Paap lists a few other manuscripts that use ἰη̄ for the name Jesus: the P.Egerton 2 papyrus, the Dura fragment (GA 0212), P.Oxy. VIII 1079 (= P¹⁸), P.Oxy. X 1224 (= Gospel of Peter?), and P.Oxy. XVII 2070 (anti-Jewish dialogue); see A. H. R. E. Paap, *Nomina Sacra in the Greek Papyri of the First Five Centuries A.D.: The Sources and Some Deductions* (Leiden: Brill, 1959), 107–9.

²⁰ Kathleen McNamee, ed., *Abbreviations in Greek Literary Papyri and Ostraca*, BASPSup 3 (Chico, CA: Scholars, 1981), xi.

in some papyrus manuscripts of the Greek Old Testament in order to see if similar patterns emerge.²¹ The Chester Beatty Old Testament papyri constitute a suitable sample for such a study. Not only do they cover a wide range of Old Testament books, they are also most likely Christian in origin, since they are written in codex form and contain the *nomina sacra*. They will thus serve as a helpful point of comparison for New Testament manuscripts. Each codex will therefore be taken in turn, saving P.Beatty VI for last due to its complexity.

3.1 P.Beatty IV Genesis

Early fourth century, forty-four leaves

P.Beatty IV is a substantial copy of Genesis that contains roughly 150 visible numbers, a large portion of which are written as shorthand numerals. Importantly, the scribe abides by the four principles stated above. Ones are consistently written in full without any evident deviation: εἰς (38:28), ἐν (11:1; 41:25, 26), ἐνα (34:22), ἐνι (10:25; 41:5), μία (27:38; 40:5; 41:11), and μίαν (32:9). Likewise, ordinal numbers are exclusively longhand (e.g., 11:10; 14:4, 5, 20; 17:14; 22:3, 15; 27:36; 29:27; 30:7, 19; 31:5, 22; 32:9, 17; 41:5, 20), as are numbers in the thousands (20:16; 24:60).

Cardinal numbers appear in both shorthand and longhand forms. Generally, the scribe tends to reserve shorthand forms for larger values: for example, $\bar{\lambda}$ (18:30),²² $\bar{\mu}$ (18:29; 25:20; 26:34),²³ $\bar{\nu}$ (18:24),²⁴ $\bar{\omicron}$ (11:26).²⁵ Furthermore, values above one hundred are usually abbreviated as well: for example, $\bar{\rho\kappa\zeta}$ (23:1), $\bar{\rho\kappa\beta}$ (11:25), $\bar{\rho\pi}$ (35:28), $\bar{\rho\lambda}$ (11:14), and $\bar{\rho\lambda\zeta}$ (25:17). Smaller values are also sometimes written as symbols (e.g., $\bar{\zeta}$ in 21:29; 41:4, 5, 6).

Also in keeping with the pattern of New Testament manuscripts, inflected cardinal numbers are nearly always written in full: for example, $[\delta\upsilon]civ$ (9:22), δεκατετ[c]αρα (31:41), τετρα|κοσιων (23:15), τρια (18:6; 29:1), τρε[$\iota\alpha$] (40:18), [τρι]|ων (30:36). Once again, the scribe operates here according to the principles outline above.

There are, however, some exceptions in this category. In one instance the shorthand form $\bar{\iota\gamma}$ stands for the inflected δέκα τριῶν (17:25), though it is preceded immediately by ἐτῶν, which might have provided sufficient information about its correct pronunciation.

Another exception to the rule is that several times the inflected διακόσια is represented by a shorthand form (11:17, 19, 21, 23). It seems very likely that the reason for this deviation in practice is the location of these values within a genealogy, which is filled with compound numbers. When the same value occurs elsewhere outside of a genealogy, it is written longhand twice (32:15 [2x]).

Two other numbers break the rule. Once the scribe writes $\bar{\rho\lambda\delta}$ for ἑκατον εἴκοσι τέσσαρα (11:16)—again, occurring in a genealogy. Here, the correct form of τέσσαρα could possibly have been inferred from context, but it is difficult to see how this could have been done in the process of reading: καὶ ἔζησεν Εβερ $\bar{\rho\lambda\delta}$ ἔτη καὶ ἐγέννησεν τὸν Φαλεκ (11:16). As the number precedes its antecedent, it is unclear how the lector should be able to know what the correct form would be.

On another occasion, the scribe evidently wrote $\bar{\rho\alpha\lambda}$, which technically breaks the rule since it contains within it a shorthand form of “one” (11:18). However, this appears to be a

²¹ The one Septuagint manuscript in the Chester Beatty collection not listed below is the Jeremiah papyrus P.Beatty VIII, simply because it contains no visible numbers in its body text.

²² Due to line length it is nearly certain there is another instance of $\bar{\lambda}$ in 18:30.

²³ Due to line length it is nearly certain there is another instance of $\bar{\mu}$ in 18:29.

²⁴ Due to line length it is nearly certain there is another instance of $\bar{\nu}$ in 18:24.

²⁵ Due to line length it is nearly certain there is another instance of $\bar{\nu}$ in 18:28.

nonsense reading. If written correctly, the numeral would have been in descending order (i.e., $\overline{\rho\lambda\alpha}$). Since the expected reading here is $\overline{\epsilon\kappa\alpha\tau\acute{o}\nu\ \tau\rho\acute{\iota}\alpha\kappa\omicron\nu\tau\alpha}$ (= $\overline{\rho\lambda}$), it seems most likely that this is a scribal error.

In summary, there are seven instances (out of 150 numbers) that break the rules stated above, in which numerical shorthand is used for inflected cardinal numbers. Six of these occur in a genealogy, where perhaps the scribe was less concerned about clarity in pronunciation. In all, however, the numeral-writing techniques found in P.Beatty IV fit the four patterns quite well, and the numerals as written pose very few ambiguities to a lector.

3.2 P.Beatty V Genesis

Latter third century, twenty-two leaves

P.Beatty V is another substantial copy of Greek Genesis and slightly older than P.Beatty IV. In its extant leaves there are roughly one hundred visible numerals, a large portion of which appear as shorthand numerals. Remarkably, as with P.Beatty IV (and early New Testament manuscripts), the scribe of P.Beatty V abides by the principles stated above. “Ones” are always written longhand (24:36; 32:9; 33:13; 35:16; 41:22, 25; 42:11, 33; 43:14), as are ordinal numbers (32:9, 17, 19 [2x]; 34:25; 41:43, 52; 42:18; 45:6), and a value in the thousands (24:60).

As is typical, cardinals account for the largest category of numbers in P.Beatty V. Many are written longhand (e.g., $\delta\upsilon\omicron$ in 24:22; 31:37; 32:8, 23; 33:1; 34:25; 41:50; $\delta\epsilon\kappa\alpha$ in 24:55; 42:3; 45:23 [2x]; $\epsilon\acute{\iota}\kappa\omicron\varsigma\iota$ in 31:41; $\tau\rho\epsilon\iota\varsigma$ in 40:10, 12 [2x]; 42:17; $\acute{\epsilon}\pi\tau\alpha$ in 41:26, 48, 50, 53, 54; $\delta\omega\delta\epsilon\kappa\alpha$ in 42:32; and $\pi\epsilon\nu\tau\epsilon$ in 45:6, 11, 22). Many others, however, are written in shorthand form, both small values (e.g., ζ in 41:18, 19, 20, etc.) and larger values ($\overline{\rho\omicron\epsilon}$ in 25:7). The vast majority of these shorthand forms fit the expected pattern: indeclinable cardinals are routinely abbreviated (e.g., $\overline{\rho\omicron\epsilon}$ in 25:7; $\overline{\rho\lambda\zeta}$ in 25:17; $\overline{\kappa}$ in 32:15 [2x], 16; $\overline{\lambda}$ in 32:16; $\overline{\mu}$ in 32:16; $\overline{\iota}$ in 32:16 [2x]; $\overline{\alpha}$ in 32:23; $\overline{\beta}$ in 42:13; $\overline{\zeta}$ in 46:25 *et passim*; $\overline{\xi\varsigma}$ in 46:26; $\overline{\theta}$ in 46:27; and $\overline{\omicron\epsilon}$ in 46:27), as are lexical forms of declinable words ($\overline{\upsilon}$ in 33:1; $\overline{\lambda\gamma}$ in 46:15), but inflected numbers are written longhand ($\tau\rho\iota\alpha\kappa\omicron\varsigma\iota\omicron\upsilon\varsigma$ in 45:22).

There are two exceptions to this principle. Both of these exceptions are the abbreviation $\overline{\varsigma}$, once used for $\delta\iota\alpha\kappa\omicron\varsigma\acute{\iota}\alpha\varsigma$ (32:15) and another time for $\delta\iota\alpha\kappa\omicron\varsigma\acute{\iota}\alpha$ (32:15), both in the same verse. The line in question appears the following way in the papyrus (word divisions added):

$\alpha\iota\gamma\alpha\varsigma\ \overline{\varsigma}$ [τραγους] $\overline{\kappa}$ προβατα $\overline{\varsigma}$ κρειους $\overline{\kappa}$ καμηλους θηλαζουσας

With its numerical shorthand this sentence would certainly be difficult, but probably not impossible, to articulate aloud. The inflected endings of $\delta\iota\alpha\kappa\omicron\varsigma\acute{\iota}\alpha\varsigma$ in these cases match the endings of the respective nouns they modify and follow: $\alpha\acute{\iota}\gamma\alpha\varsigma\ \delta\iota\alpha\kappa\omicron\varsigma\acute{\iota}\alpha\varsigma$ and $\pi\rho\acute{o}\beta\alpha\tau\alpha\ \delta\iota\alpha\kappa\omicron\varsigma\acute{\iota}\alpha$. So, it is reasonable to suppose that the lector would be capable of navigating the correct pronunciation for these abbreviations.

In all, the vast majority of the numerals in P.Beatty V confirm the principles noted above, with only two exceptions, both of which might well have been discernible because of their context.

3.3 A Comparison of P.Beatty IV and P.Beatty V

Before moving on to the other papyri, it is worth comparing the texts of P.Beatty IV and V since there is a great deal of overlapping text between them. When the overlapping texts of these two papyri are compared, it is apparent they often agree in their choice of number-form. For example, $\delta\upsilon\omicron$ (24:22; 31:37; 32:8), $\tau\rho\epsilon\iota\varsigma$ (40:10), $\acute{\epsilon}\pi\tau\alpha$ (41:26b; 41:53, 54), and $\epsilon\acute{\iota}\kappa\omicron\varsigma\iota$ (31:41) are

all written longhand by both scribes. Similarly, some numerals are written in shorthand form by both scribes: $\overline{\rho\lambda\zeta}$ (25:17) and $\overline{\nu}$ (33:1). However, a significant degree of difference is observable between them. For example, consider the following selection:

Ref.	P.Beatty IV	P.Beatty V
25:20	$\overline{\mu}$	$[\tau\epsilon\sigma\sigma\epsilon]\rho\alpha\kappa\omicron\nu\tau\alpha$
32:15a	$\overline{\delta\iota\alpha\kappa\omicron\zeta\iota \alpha\sigma}$	$\overline{\sigma}$
32:15b	$\overline{\epsilon\iota\kappa\omicron [c\iota]}$	$\overline{\kappa}$
32:15c	$\overline{\delta\iota\alpha\kappa\omicron [c\iota]\alpha}$	$\overline{\sigma}$
32:15d	$\overline{\epsilon\iota\kappa\omicron [c\iota]}$	$\overline{\kappa}$
41:20	$\overline{\epsilon\pi[\tau\alpha]}$	$\overline{\zeta}$
41:26a	$\overline{\epsilon\pi\tau\alpha}$	$\overline{\zeta}$
41:26c	$\overline{\epsilon [π]\tau\alpha}$	$\overline{\zeta}$
41:26d	$\overline{\epsilon\pi\tau\alpha}$	$\overline{\zeta}$
41:27	$\overline{[\epsilon]\pi\tau\alpha}$	$\overline{\zeta}$
41:35	$\overline{\epsilon\pi\tau\alpha}$	$\overline{\zeta}$
41:36	$\overline{\epsilon\pi\tau\alpha}$	$\overline{\zeta}$
42:13	$\overline{\delta\omega\delta\epsilon[\kappa\alpha]}$	$\overline{\upbeta}$

Such a substantial amount of differences between these two papyri reveals helpful information about the scribal practices of number-writing. First, it is noteworthy that the two scribes exercise significant independence of practice when it comes to writing numerals. The copyist of P.Beatty V evidently opted for numerical shorthand far more often than that of P.Beatty IV, except on at least one occasion. The two papyri are related to a common textual ancestor, but not immediately. So, however many generations of copying might intervene between these papyri and their common ancestor, it is clear that significant differences in number-writing have developed—a fact that must reflect the individual practices and preferences of our scribes (or the scribes before them). In other words, copyists apparently wielded a certain degree of freedom to do with numerals what they chose.

Second, and related to the previous point, it is highly significant that—in spite of this seeming freedom of practice—both scribes nonetheless abide by the four principles described above. Even with significant element of liberty with regard to number-writing, neither scribe chooses to use shorthand for ones, ordinals, thousands, or inflected cardinals (save for the handful of exceptions to this latter category as noted above). What distinguishes our two scribes is not their adherence to the four main principles but simply to the frequency with which they use shorthand forms for uninflected cardinal numbers.

Therefore, this comparison illustrates that there seems to be a common concern among early scribes to use numerical shorthand when desirable, but in a restricted way that does not inhibit ease of reading. For both of our scribes, even though their practice is not identical, they manage to produce documents with a significant amount of shorthand but only a very small percentage of which would appear to be ambiguous for a reader. And from what can be observed from the available evidence, this result was reached independently by both scribes.

3.4 P.Beatty VII Isaiah

Third century, portions of twenty-seven leaves

Several numerals remain visible in this papyrus of Isaiah, and all of them are written longhand.

This includes cardinal numbers (16:14; 17:6 [4x]) and ordinals (43:18, 26, 27; 44:6; 60:9).²⁶ There are no surprises here.

3.5 P.Beatty IX Ezekiel and Esther

*Third century, sixteen leaves*²⁷

The Ezekiel portion of this manuscript contains only a couple of visible numerals, both of which appear written in full: τρεῖς (Ezek 14:16, 18).

The portion containing the book of Esther contains quite a few visible numerals. For the most part, the scribe writes numerals according to the expected principles. For instance, ones are consistently written longhand: μῖα (3:7, 13; B7/13:7; D3/15:5) and εἰς (7:9). Cardinal numbers are usually written longhand (δύο in 2:21, 23; τριακοντὰ in 4:11). Some cardinals, however, are written in shorthand form: for example, ρκζ̄ (B1/13:1) and [v̄] (5:14).²⁸ The only visible instance of a value in thousands is μυριῶν, which is written longhand (4:7). All of these numerals conform to the four principles described above.

Quite unexpectedly, however, a handful of ordinal numbers appear in shorthand forms—a departure from the expected practice:

3:7	ἐν ἔτει ιβ̄ της βασιλει[α]ς αρταξερξου	[= δωδεκάτω]
3:7	εἰς την ιδ̄ του μηνος	[= τεσσαρεσκαιδεκάτην]
B6/13:6	τη ιδ̄ του δωδεκατου μηνος αδαρ	[= τεσσαρεσκαιδεκάτη]

These uses of alphabetic numerals are surprising because, as noted above, ordinals are almost never abbreviated among early New Testament manuscripts. And even the scribe of this manuscript is not consistent, as several ordinals are written in longhand form: for example, [δωδεκ] ατοῦ (3:13), δωδεκατου (B6/13:6), and δευ|τερου (B6/13:6). What, therefore, accounts for these ambiguous uses of shorthand? While it is uncertain, it may be that the immediate context of these ordinals makes their pronunciation easier. The presence of these ordinals in phrases specifying the date might have rendered them somewhat more predictable, especially for a native speaker. (A similar phenomenon occurs in P.Beatty VI below.)

In short, while the Ezekiel portion of this manuscript holds no surprises, the Esther portion contains a handful of what appear to be ambiguous abbreviations.

3.6 P.Beatty X Daniel

*Third century, thirteen leaves*²⁹

²⁶ Kenyon also transcribes [χιλι]αδα[c] (60:22), which is likely, but difficult to confirm.

²⁷ Versification follows Robert Hanhart, ed., *Esther*, SVTG 8.3, 2nd ed. (Göttingen: Vandenhoeck & Ruprecht, 1983). This versification is more or less what is followed in the New English Translation of the Septuagint. Where Kenyon's versification differs, relevant reference is provided immediately after, e.g., "B7/13:7."

²⁸ Although the character itself is no longer visible due to material damage, the shorthand form of [v̄] in 5:14 is confirmed by the supralinear stroke, which remains clearly visible.

²⁹ Versification follows that of the Old Greek text in Joseph Ziegler and Olivier Munnich, eds., *Sussanna, Daniel, Bel et Draco*, SVTG 16.2, rev. ed. (Göttingen: Vandenhoeck & Ruprecht, 1999). This versification is more or less what is followed in the New English Translation of the Septuagint.

The number-writing techniques of P.Beatty X follow the principles described above. Ones, for example, are always written longhand (e.g., 4:12, 14a [2x], 16, 34c; 6:2, 16; 7:3 [2x], 5, 16; 8:3 [2x], 9 [2x]).³⁰ Ordinal numbers too are exclusively written longhand (3:92; 4:1; 5:7; 7:4, 19, 23 [2x], 24; 8:1 [2x]). Likewise, values in the thousands are also given longhand (7:10 [2x]).

Cardinal numbers are mostly written in longhand form (e.g., 3:92; 4:9, 13, 29, 30c; 6:2 [2x], 3, 7, 12; 7:2, 5, 17, 24 [3x]; 8:3, 8 [2x]). On at least one of these occasions, a shorthand form would have been particularly convenient: ε|πτα (4:13). In such a place, the scribe could easily have used the shorthand form (ζ̄) and rounded off the line without breaking up a word.³¹ Evidently the scribe thought otherwise. Just two of all cardinal numbers are written in shorthand form: ρκζ̄ (6:1, 3), both of which unambiguously stand for the uninflected ἑκατὸν εἴκοσι ἑπτά.

In short, the scribe of P.Beatty X perfectly follows the patterns we expect: numerical shorthand is occasionally used, but always unambiguously as regards pronunciation.

3.7 P.Beatty XI Ecclesiasticus

Fourth century, one leaf and part of a second

Two numerals are visible (or partially so) in this manuscript: ἑπτα (37:14) and τε[cca]ρα (37:17). Not much can be gathered from the scant evidence present in this papyrus, except that the two visible numbers hold no surprises.

3.8 P.Beatty VI Numbers and Deuteronomy

Second century, thirty-three leaves

The P.Beatty papyrus of Numbers-Deuteronomy is the most problematic and so has been kept for last. The Deuteronomy portion of this manuscript is rather straightforward. It contains roughly twenty visible numerals, all of which are written longhand. This includes

- ones (4:42; 6:4),
- cardinal numbers (2:7; 3:4, 8, 21; 4:13 [2x], 41, 47; 5:13; 7:1; 10:1; 31:10),
- ordinals (4:42; 5:9 [2x], 14; 19:4),
- and one number in the thousands (7:9).

It is fairly certain that the scribe did use shorthand forms for numerals, but none are visible in the extant text.³² Given the apparent line lengths, some of Kenyon's reconstructed numerals are virtually certain, meaning that the scribe did use numerical shorthand.³³ In each case, the cardinals that were (probably) written shorthand stand for indeclinable numbers and thus were unambiguous. All available evidence indicates, therefore, that the Deuteronomy portion of this codex conforms perfectly with our four principles.

³⁰ In addition to these, Kenyon lists another instance of one in his edition: ε[ιϰ] (4:30c). The remaining ink is consistent with this transcription, and I think Kenyon is correct, but there is sufficient uncertainty here to omit it from the list above.

³¹ This seems to be what some scribes do. See, for example, Codex Vaticanus (B 03): β̄ (Num 29:17, 26), ζ̄ (29:2), ιδ̄ (29:17, 23, 26, 32), and φ̄ (31:39).

³² It also includes one instance of the word ἐπιδέκατον (“tithē”/“tenth”) in longhand form (12:17).

³³ In Kenyon's edition, he reconstructs the following numerals as shorthand in form, even though they are no longer visible: [ιβ̄] (1:23), [λ̄ και η̄] (2:14), [δ̄] (3:11), and [μ̄] (29:5). Given the length of lines, each of these are very likely to be correct reconstructions. Since each are indeclinable forms, they would fit the expected pattern as unambiguous abbreviations.

It is the Numbers portion of this manuscript that requires extended consideration. Although it is unwise, as the adage goes, to judge a book by its cover, one might nevertheless be forgiven for suspecting that a book titled “Numbers” is likely to contain many of them. And indeed it does. Although just twenty-four leaves are extant, many of which are extremely fragmentary, the remaining text of Numbers alone contains roughly 350 numbers. The real problem with P.Beatty VI-Numbers is that it breaks all four of the rules. Both ones, ordinals, inflected cardinals, and numbers in the thousands are all represented by shorthand numerals, and quite often in confusing ways.

3.8.1. Ones

Most surprising is the scribe’s repeated use of numerical shorthand for the number “one.” At times the scribe’s use of shorthand results in a line of text that appears to be impossible to read aloud. Simply by way of example, consider the following text, focusing on the two uses of $\bar{\alpha}$ for “one” in verse 11 (Num 6:10–11):

- 1 [ται] 10 και τη ημερα τη ογ
- 2 [δοη] οικει $\bar{\beta}$ τρυγοναc
- 3 [η $\bar{\beta}$] νεοccουc περιcτε ||
- 4 ρων προς τον ι[ερεα ε]
- 5 πι tac θυραc της εκ[ηνης]
- 6 του μαρτυριου ¹¹ κα[ι ποιη]
- 7 cει ο ιερευc $\bar{\alpha}$ π[ερι α]
- 8 μαρτιαc και $\bar{\alpha}$ ειc ο[λο]
- 9 κατωμα και εξιλ[αcε]

The basic question here is how the lector could know that the two instances of $\bar{\alpha}$ in verse 11 both stand for *μίαv* (lns. 7, 8). Specifically, it is highly doubtful that any reader could surmise what specific forms were required here, especially during the process of reading. First, the lector must discern that the first instance of $\bar{\alpha}$ stands for the cardinal “one” rather than the ordinal “first” (= *πρῶτοc*, etc.).³⁴ Second, the reader must also discern that the numeral is in the accusative case. Third, assuming the lector correctly understands this instance of $\bar{\alpha}$ as a cardinal number in the accusative case, there is no obvious reason why it ought to be feminine in form. There are two nouns in the preceding lines that are potential antecedents of the number “one”: either *τρυγόναc* (fem., “turtledoves,” ln. 2) or *νεοccουc* (masc., “young birds,” ln. 3). Why the former is the chosen by the author as the antecedent is not clear. In other words, assuming that the lector correctly surmised that $\bar{\alpha}$ stood for the cardinal “one” rather than an ordinal form, and that it stood for an accusative form, two options would still remain: *μίαv* and *ἕνα*.

Bizarrely, the papyrus is filled with myriad other examples of the shorthand $\bar{\alpha}$, despite its inherent ambiguities. By my count, the papyrus contains 118 visible instances of the cardinal number “one,” a full eighty-three of which are instances in which the scribe used the vague shorthand form. That is, just thirty-five instances of the word “one” are written in longhand form.

In many of these instances of the shorthand $\bar{\alpha}$ the reader could perhaps ascertain the correct case and/or gender of the number from context. See, for instance, Num 7:13:

³⁴ This would normally be obvious since most scribes evidently avoided using shorthand for ordinal numbers altogether. However, it becomes a problem in *this* manuscript because many ordinals are written in shorthand form.

- 1 δα και προσηνεγκε
 2 δωρον αυτου τρυβλι
 3 ον αργυρου εν λ̄ και
 4 ρ̄ ολκη αυτου φιελην
 5 ᾱ αργυρην ο̄ κυκλων
 6 κατα τον κυκλον τον
 7 αγιον αμφοτερα πλη

Four numbers appear in this verse: εν in line 3 (= ἔν), λ̄ και | ρ̄ in lines 3–4, ᾱ in line 5 (= μίαν), and ο̄ in line 5. Of these, ᾱ in line 5 is the only number that is ambiguously written; ἔν is longhand and the other shorthand forms stand for indeclinable number-words. However, it is possible that the reader would be able to surmise the correct form of the number. Assuming that the lector was paying attention to what was just read, he or she could perhaps see that the numeral ᾱ modifies the word φιελην (= φιάλην, “bowl”) in the previous line (ln. 4). This wording would suggest a feminine, accusative form: that is, μίαν. Nevertheless, two caveats are in order. First, the shorthand ᾱ could still stand for a feminine, accusative ordinal number: that is, πρώτην. There is no grammatical reason why it should not, and, as we will see below, the scribe often uses shorthand for ordinal forms. Second, it is important to reiterate that the presence of an alphabetic numeral here would have required the lector to make a grammatical inference (ᾱ = μίαν) while in the process of reading. Even if the precise mechanics of reading in antiquity are uncertain, this orthography would have been comparatively more demanding for the reader than that in the other papyri. To pronounce this use of shorthand correctly, the reader would need to pay close attention to the sense of the text as it was read, and likely also have detailed knowledge of the text beforehand.

An intriguing pattern can be seen in chapter 7. In this passage, the author of Numbers repeats one paragraph twelve times essentially verbatim. The paragraph specifies what each tribe of Israel brought as an offering for the dedication of the newly-built tabernacle. Since each tribe presents the exact same set of items, every iteration of the paragraph is practically identical (except for the name of the tribe).³⁵ Within this paragraph, the number “one” occurs seven times; with each of the twelve paragraphs taken together, this constitutes eighty-four instances of the number “one.”

When writing the first iteration of this paragraph (7:13–17), the scribe keeps most of the “ones” longhand:

³⁵ Aside from the name of the tribes, there is one other minor difference. Only the first two paragraphs (7:13–17, 19–23) include the opening phrase και προσήνεγκεν (“and he brought”); the latter ten simply begin with τὸ δῶρον αὐτοῦ ... (“his offering [was] ...”).

1	δα και και προσηνεγκε	
2	δωρον αυτου τρυβλι	
3	ον αργυρου εν λ̄ και	ξ̄ν
4	ρ̄ ολκη αυτου φιελην	
5	ᾱ αργυρην ο̄ κικλων	= μίαν
...		
6	κην μιαν ῑ χρυσεων	μίας
7	πληρη θυμιαματος	
8	μοσχον ενα εκ βοων	ένα
9	κρειον ενα αμνον	ένα
10	ενα ενιαυσιον εις ο	ένα
11	λοκαυτωμ[α κ]αι χιμα	
12	προν εξ αιγω[ν εν]α πε	ένα
13	ρι αμαρτιας και εις θυ	

For all of its numerical shorthand, this first iteration of the paragraph is for the most part readable. Only one numeral ($\bar{\alpha}$ in ln. 5) is ambiguous since most of the “ones” are longhand and the other shorthand symbols stand for indeclinable forms (as noted above). However, in the other eleven instances of this paragraph which follow, the vast majority of the “ones” are written in shorthand form. For example, when this same paragraph occurs in 7:37–41 all seven instances of the number “one” are in shorthand form. Thus, the first iteration of the paragraph is significantly more “readable” than the eleven which follow. If this pattern was intentional, the purpose seems to be this: once the numbers are written in full in the first iteration of the paragraph, the reader is then expected to recall the correct forms in each of the following iterations. Whether or not this was the intention of the scribe is difficult to say, but it is important to note that a similar pattern can be observed, though on a smaller scale, in some New Testament manuscripts.³⁶

Outside of this chapter, with its verbatim repetition of the same paragraph, the use of shorthand for “one” inevitably becomes more vague. However, it is worth noting that whenever the scribe opts for the shorthand form of “one,” it always modifies a familiar word that can be found back in chapter 7. For example,

8:8	μοσχον $\bar{\alpha}$
28:11	κρειον $\bar{\alpha}$
28:15	αιγων $\bar{\alpha}$
28:27	κρειον $\bar{\alpha}$
29:2a	μοσχον $\bar{\alpha}$
29:2b	κρειον $\bar{\alpha}$
29:3	[τ]ω μοσχω τω $\bar{\alpha}$
29:9	[τῷ κριῶ τ]ω $\bar{\alpha}$
29:11 ³⁷	[ἐξ αιγῶν $\bar{\alpha}$]
29:14a	[τ]ῷ μο [cχ]ῷ τω $\bar{\alpha}$

³⁶ In Matt 1:17, the number “fourteen” occurs three times. The scribe of Codex Washingtoniensis (W 032) wrote the first of these longhand δεκατεσσαρες, followed by two instances of the shorthand form ($\bar{\iota}\delta$). In a similar way, the scribe used the longhand form ἑπτα (Mark 8:5), followed by several uses of the shorthand form in the same context ζ̄ (8:6, 8, 20 [2x]). Later, a similar pattern occurs once again: ἑπτα (Mark 12:20), followed by ζ̄ (12:22, 23).

³⁷ In this case, the alpha is no longer visible, but the supralinear stroke is clear.

29:14b	τω κρειω τω $\bar{\alpha}$
29:31	αι γων $\bar{\alpha}$
29:36a	μοσχον $\bar{\alpha}$
29:36b	κρειον $\bar{\alpha}$
29:38	αιγων $\bar{\alpha}$

What this shows is that every time the shorthand form of $\bar{\alpha}$ is used outside of chapter 7 it always modifies a word that was used back in chapter 7: either μόσχος (“calf”), κριός (“ram”), or αἴξ (“goat”). However, in instances that the number “one” does not modify one of these familiar and frequently repeated words from chapter 7, the longhand form is consistently used: for example, ουδε | εις πλην χαλεβ (26:65), α[π’ αὐτῶ]ν ουδε εις (31:49), and ε[νὶ τῶ]ν εκ του | [δήμου] (36:8).

These patterns illustrate that, with respect to numerals, P.Beatty VI would have been comparatively much more demanding to someone attempting to read aloud than the other papyrus studied here. It would likely have required the lector to pay close attention to the sense of the text, know its contents beforehand, and/or be able to deduce the grammatical number and gender of some words while in the process of reading.

3.8.2. Cardinals

Many cardinals are abbreviated in this manuscript, and it would be unhelpful to cite them all. However, it is worth highlighting how the scribe also departs from the expected practice as regards inflected cardinals on a handful of occasions: for example, $\bar{\delta}$ for τέσσαρας (7:7, 8), $\bar{\iota\delta}$ for δέκα τέσσαρας (29:13, 29), and $\bar{\iota\delta}$ for τέσσαρας καὶ δέκα (29:23, 32). The cardinal number τέσσαρας is the accusative form of τέσσαρες, whose spelling—and therefore also pronunciation—are slightly different. On the other hand, some inflected cardinals in the papyrus are written longhand: for example, τρια (29:3, 14). In other words, the scribe does break the expected rule here, but as not egregiously as with the number “one.”

3.8.3. Ordinals

As regards ordinal numbers, the scribe once again breaks ranks with the pattern seen in other manuscripts. Many ordinal numbers are represented by numerical shorthand, even as this creates a variety of ambiguities for pronunciation. Forty-seven ordinal numbers are extant in the papyrus, fourteen of which are given in shorthand.

However, once again we must note that it is not as though the scribe has dispensed with any notion of legibility. In fact, even with this apparently cavalier attitude to numerical shorthand, vestiges of concern for readability are nonetheless observable. For example, it is noteworthy that the ordinal δέκατος (“tenth”) is *always* longhand in form (at least where extant), and this accounts for no fewer than twenty-one instances. This surprising consistency in using the full spelling for δέκατος does not seem to be related to something inherent in the number itself but rather something to do with the context in which it tends to appear. Specifically, we see that the full form of δέκατος tends to be used in potentially confusing contexts, such as this one: καὶ τῇ ἡμέρᾳ τῶν αββάτων προσάξετε δύο ἀμνοὺς ἐνιαυσίους ἀμόμους καὶ δύο δέκατα σεμιδάλεως (28:9). In the papyrus itself, the scribe abbreviates the second δύο to $\bar{\beta}$, but the δέκατα that follows immediately is given longhand. One can imagine that this was done deliberately. What is written in the papyrus (καὶ $\bar{\beta}$ δεκατα σεμιδαλεως) is readily understandable—and even simple for a would-be lector. However, if both were written in shorthand form—καὶ $\bar{\beta}$ $\bar{\iota}$ σεμιδαλεως—

the meaning would be more difficult to discern and even possibly mistaken for the number “twelve.”³⁸ Since scribes could (and did) use shorthand numerals for fractions (as here: “two tenths”), it appears that the longhand δεκατα has been used here for clarity.³⁹ A similar explanation applies to several other instances (e.g., 28:12, 28 [2x]; 29:3 [2x], 14 [2x]).

A second pattern in this vein is also relevant. All of the abbreviated ordinals occur in a similar kind of phrase specifying the date: “on the X day”:⁴⁰

6:9	τη [η]μερα τη ζ̄
7:24	τη ημερα τη γ̄
7:30	τη η[με] ρα τη δ̄
7:36	τη ημερα τη ε̄
7:48	τη ημερα τη ζ̄
7:60	τη ημερα τη θ̄
7:72	τη ημερα τη ιᾱ
7:78	[τη η]μερα τη ιβ̄
28:16	ιδ̄ ημερα του μηνος
28:17	τη ιε̄ ημ[ε] ρα του μηνος
29:12 ⁴¹	[τη] ιε̄ τημερα (<i>sic</i>)
29:13	τη η μ[ε]ρα τη ᾱ
29:23 ⁴²	[τ]η ημερα τη δ̄
29:29	τη ημερα τη ε̄

What is significant here is that every (extant) instance of a shorthand ordinal occurs in a date-formula as a modifier of the noun ἡμέρα and always in the dative case. This pattern illustrates a high degree of regularity and therefore predictability. A similar pattern related to date-formulae was seen in P.Beatty IX Esther (see above). Thus, so far as we can tell from the extant text, the scribe only used shorthand for ordinals that specified a particular day of the week and almost always in a predictable phrase.

This predictability does not appear to be incidental. The ordinals that occur outside of this stock phrase with ἡμέρα are consistently written longhand (in addition to the longhand uses of fractions as mentioned above):

28:4	τον α μνον τον δευτε ρον ποιησεις
28:5a	ποιη σεις το δεκατον του οφις σεμιδαλιν
28:5b	αναπεποιη μενην εν ελαιω εν τεταρτω του εις
28:14a	και το τριτον του εις

³⁸ Although rare, scribes sometimes wrote β̄ι (rather than ιβ̄) for δώδεκα; see, for example, Luke 8:43 in Codex Bezae (D 05). See also some inscriptions illustrating the same thing: James A. Notopoulos, “Notes on Athenian Inscriptions of the Empire Period,” *AJP* 69 (1948): 415–19, and Marcus N. Tod, “The Alphabetic Numeral System in Attica,” *ABSA* 45 (1950): 126–39 (esp. 129).

³⁹ See the shorthand form used for a fraction in Ψ⁴⁷ (P.Beatty III) at Rev 9:15. Cf. Ulrich Wilcken, *Grundzüge und Chrestomathie der Papyrskunde*, vol. 1.1 (Leipzig: Teubner, 1912; repr. Hildesheim: Olms, 1963), xlvi.

⁴⁰ A few others are reconstructed by Kenyon and fit this same pattern: see 29:35 and 31:19 (2x)—all of which are plausible reconstructions.

⁴¹ This appears to be a scribal error, note “τημερα.”

⁴² To clarify, ημερα τη is written interlinearly by what appears to be a later hand. The first hand omitted the phrase.

28:14b και | το τεταρτον του ειν
 28:16 και | εν τω μηνι τω πρωτω
 29:12 του | [μ]ηνος του εβδο|μου

In other words, whenever ordinals occur outside of the familiar chronological reference, they are given in longhand form. This observation seems to suggest that there are evident traces of care and concern to produce a readable document, but a would-be lector likely needed a detailed knowledge of the text being read in order to navigate the ambiguities.

3.8.4. *Thousands*

We must also consider numbers in the thousands. As we might expect, our scribe takes a mixed approach. Almost all visible numbers in the thousands take some form of abbreviation. For example:

26:21 δ κ[αι ἐξήκοντα | χιλιά]δες και τ̄
 26:23⁴³ ζ̄ χειλιαδες και φ̄
 26:41 β̄ | και λ̄ χειλιαδες και [φ̄]
 26:47 δ̄ και [ξ̄ χειλια|δε]ς και φ̄
 26:50 μ̄ χειλιαδες | και τ̄
 31:36⁴⁴ [λ̄β̄ χειλι]αδες
 31:36 τ̄ και λ̄ χειλ[ια]|δες και ζ̄ χειλι[οι] | και φ̄
 31:38 σ̄ και λ̄ χειλι|αδες
 31:39 λ̄ χει|λιαδες και φ̄
 31:40 εκ|καιδεκα χειλιαδες
 31:43 τ̄ | χειλιαδες και λ̄ χει|[λ]ιαδες και ξ̄ χειλιαδες |[κ]αι φ̄
 31:44⁴⁵ [λ̄ς] | χειλιαδες

With only one exception (31:40), all of the above are “hybrid abbreviations” and are therefore also straightforward in pronunciation. The numbers written in shorthand in these instances are either indeclinable number-words or are in their lexical forms. And so, for all of the abbreviated forms, these are unambiguous for a reader.

However, the scribe did not always opt for this “hybrid” method. On several occasions, the scribe used a full shorthand form for values in the thousands: for example, β̄ και ῡ (7:85), β̄ (35:5 [3x]). Recall that the “full” style of abbreviating is standard in documentary papyri but virtually absent from early New Testament manuscripts because of its inherent ambiguity.⁴⁶ In each case, it appears that the scribe originally wrote something like this: β̄. The ascending stroke from the top of the letter signals that symbol stands for 2,000 rather than “two.”⁴⁷ How-

⁴³ The scribe evidently wrote ζ̄ (= 7) instead of ξ̄ (= 60).

⁴⁴ Although the initial numerals in this number are no longer visible, due to line length it is nearly certain that they were written shorthand.

⁴⁵ Although the initial numerals in this number are no longer visible, due to line length it is nearly certain that they were written shorthand.

⁴⁶ See, for example, P.Oxy. XXIV 2415, col. 2, lns. 4, 5 <http://papyri.info/ddbdp/p.oxy;24;2415>; P.Oxy. XXXIV 2728, ln. 21 <http://papyri.info/ddbdp/p.oxy;34;2728>; P.Oxy. XLII 3044, ln. 7 <http://papyri.info/ddbdp/p.oxy;42;3044>; BGU III 997, col 1., ln. 10 <http://papyri.info/ddbdp/bgu;3;997>; and BGU VI 1292, col. 2, lns. 43–45 <http://papyri.info/ddbdp/bgu;6;1292>.

⁴⁷ The scribe evidently uses a similar symbol for χίλιοι in 26:51, but only part of the character is now visible.

ever, what is strange is that, in each of the four instances, the added stroke has been mostly expunged by a later hand. Without such an identifying decoration, there is no visual distinction between the $\bar{\beta}$ of 2,000 and the $\bar{\beta}$ of “two.” Thus, the mark that would eliminate some ambiguity by distinguishing between “two” and 2,000 has been removed in each case. It is not clear why these strokes have been erased, nor indeed is it clear how a lector could be expected to ascertain the correct pronunciation of these forms while in the process of reading. As it now stands, each instance of $\bar{\beta}$ is potentially misleading.

3.8.5. Another Numeric Symbol

It is worth observing another shorthand form that the scribe of P.Beatty VI uses. In two clear instances, the scribe used the abbreviation $\rho\chi$ in place of $\acute{\epsilon}\kappa\alpha\tau\acute{\omicron}\nu\tau\alpha\rho\chi\omicron\varsigma$ (“centurion,” 31:48, 54), and apparently also in a third instance (31:14).⁴⁸ Here, the rho stands for $\acute{\epsilon}\kappa\alpha\tau\acute{\omicron}\nu$ as it normally does, and the superscripted chi stands for the latter half of the word: $-\alpha\rho\chi\omicron\varsigma$. The symbol $\rho\chi$ for $\acute{\epsilon}\kappa\alpha\tau\acute{\omicron}\nu\tau\alpha\rho\chi\omicron\varsigma$ is common in documentary papyri.⁴⁹ However, its use here is notable because, with its inflected endings, it is yet another example of a symbol that is ambiguous with regard to pronunciation. If, in any case, the reader were paying close attention to the immediate contexts, the appropriate case endings might nevertheless have been discernible.

3.8.6. A Repeated Column

One final aspect of P.Beatty VI should be considered. There is a notable and lengthy scribal mistake that occurs in this papyrus, namely, the erroneous dittography of a full paragraph, the entirety of which is still readable. What is significant for our purposes is the fact that several numerals occur within the paragraph in question, offering a glimpse of how the scribe decided to transcribe the same bit of text in two separate iterations. Interestingly, the numerals are not written the same way in the repeated paragraph. Here is a relevant selection from the original paragraph and its dittography:

Initially-Written Text	Dittography
7:56–57	7:56–57
θυσιαν ⁵⁶ θυϊσκην $\bar{\alpha}$ $\bar{\iota}$	εν ελαιω εις θυσιαν ⁵⁶ θυ
χυρων πληρη θυμι	ϊσκην $\bar{\alpha}$ $\bar{\iota}$ χυρων πλη
αματος ⁵⁷ μοσχον ενα	ρη θυμιατος ⁵⁷ μοσχον
εκ βοων κρειον ενα	$\bar{\alpha}$ εκ βοων κρειον $\bar{\alpha}$ α
αμνον $\bar{\alpha}$ ενιαυσιον	μνον $\bar{\alpha}$ ενιαυσιον εις

Two differences in number-writing are observable in this portion of the dittography.⁵⁰ In the initially written text, the scribe wrote $\mu\omicron\varsigma\chi\omicron\nu\epsilon\nu\alpha$ and $\kappa\rho\epsilon\iota\omicron\nu\epsilon\nu\alpha$, while in the second iteration the scribe wrote $\mu\omicron\varsigma\chi\omicron\nu\bar{\alpha}$ and $\kappa\rho\epsilon\iota\omicron\nu\bar{\alpha}$. The simple observation to be made from these differences coheres with what was seen above with P.Beatty IV and V: the scribe is at liberty to use

⁴⁸ In this third instance (31:14), the rho is clear but the chi is no longer extant due to mutilation.

⁴⁹ This symbol is common in documentary papyri. See, for example, P.Oxy. L 3580, ln. 2 <http://papyri.info/ddbdp/p.oxy;50;3580>; P.Oxy. LIX 4000, ln. 27 <http://papyri.info/ddbdp/p.oxy;59;4000>; P.Oxy. LX 4062, ln. 9 <http://papyri.info/ddbdp/p.oxy;60;4063>; and ostraca: O. Did. 80 <http://papyri.info/ddbdp/o.did;;80>.

⁵⁰ In both iterations of verse 56, the scribe left a significant gap between $\bar{\alpha}$ and $\bar{\iota}$, as reflected in the table above, evidently to differentiate between the two numerals.

shorthand (or not) where it seems appropriate. Rather than being restricted by the exemplar text, it appears that the scribe has the ability to choose when and where numerical shorthand should be written.

3.8.7. *Final Thoughts on P.Beatty VI*

As we have seen, the Numbers portion of P.Beatty VI breaks all of the expected rules, and many times over. Ordinal numbers, inflected cardinals, and values in the thousands are frequently written in alphabetic shorthand, despite their inherent ambiguity and despite the fact that the other papyri examined here tend to avoid them. Most perplexing of all, however, is the repeated use of $\bar{\alpha}$ for “one,” something that does not occur in any other Old Testament manuscript studied here or in any New Testament manuscript from the first five centuries. As it is the only manuscript examined here that contains numerical shorthand for “one” and full abbreviations for values in the thousands, we can safely say that it stands apart from the other papyri as regards number-writing techniques.

That being said, while the use of numerical shorthand is widespread in the manuscript, it is not absolute, and there are several patterns still discernible that seem to indicate an effort to produce a functional document. The repetitive nature of the text and the—at times—strategic use (or nonuse) of shorthand suggest that some numeral-related decisions were made with the need for clarity in the mind of the scribe. On the whole, however, the use of the practice of numerical shorthand results in a text that—from what is observable to us—would have been relatively more difficult to read than the other papyri. Put simply, ambiguous shorthand forms abound in this papyrus. To reiterate, the use of alphabetic numerals does not spoil the sense of the text. Yet for someone attempting to read the document aloud, there are comparatively more challenges and ambiguous forms. Anyone seeking to read this particular manuscript aloud would need to be a native speaker and probably intimately familiar with the text beforehand.

On the other hand, one might wish to conclude that clarity in pronunciation was not of primary concern to the party who produced the codex. This suggestion would certainly explain its liberal use of alphabetic numerals and related abbreviations. However, other elements in the papyrus point in the opposite direction. The scribe, for instance, writes with a clear and competent script, uses *paraphoi* to signal section divisions, and includes lectional aids such as the *diaeresis* over initial iotas and apostrophes after non-Greek proper names. Such features suggest that pronunciation was indeed a priority in the manuscript’s production. It is wisest, therefore, to withhold firm conclusions about P.Beatty VI until more evidence is available.

4. Conclusion

A number of factors observed above indicate that our scribes were at liberty to use numerical shorthand however and whenever they wished; they were not restricted to what appeared in their exemplars. That being the case, it is significant that the number-writing techniques of the manuscripts examined cohere so closely with those of the New Testament manuscripts. That is, these scribes operate with a similar concern for the ease reading, a fact that is observable in their noticeably restricted use of the numerical shorthand system. While documentary papyri of the period are filled with a wide range of numerical shorthand (including ones, thousands, ordinals, and inflected cardinals), the scribes who produced the Chester Beatty Old Testament papyri limited their use of abbreviations to those that would be unambiguous in reading aloud. The primary implication of this observation is fairly obvious. If the number-writing techniques

of New Testament manuscripts testify to their practical function within the early communities as texts meant to be used and read aloud (and probably in the context of communal worship), then the same can be said of the papyri examined here, which bear the exact same sorts of scribal features. This discovery is significant, even if not entirely surprising.

The one outlier, however, is P.Beatty VI-Numbers. As we have seen, the scribe departs from the usual practice in each of the four groups examined: ones, inflected cardinals, ordinals, and values in the thousands—all of which are sometimes given in abbreviated, and therefore ambiguous, forms. What to make of this difference in practice is difficult to say. While it would be tempting to suggest that P.Beatty VI was simply not intended for group reading, we could not say this with any real certainty (given what we do not know about ancient readers and reading), and it would in any case conflict with other features within the papyrus that suggest otherwise. Thus, from the available evidence, what we can say is that the pronunciation of P.Beatty VI's text evidently would have been relatively more demanding of the lector than contemporary manuscripts of Scripture, both of the Old and New Testaments.