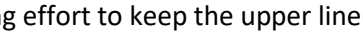
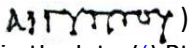
This is an article from *Biblica* Magazine, Vol. 69, No. 2, 1988. In this article, the author examined and redated the manuscript p^{46}, one of the Chester Beatty Papyri. This is an important NT manuscript, containing most of Romans, most of 1 Thess, all of 1 Cor, 2 Cor, Gal, Eph, Phil, Col, and Hebrews (with lacunae). Young Kyu Kim wrote this article, which is reproduced in its entirety below, with footnotes and diagrams. I believe that not many Christians are aware of the redating.

Palaeographical Dating of p^{46} to the Later First Century*

During the last two years, I have attempted to marshal new palaeographical evidence for evaluating P.Beatty II + P. Mich. 222 (p^{46}). I was encouraged to do this, above all, by the publication of two papyri, P. Oxy. XLI 2987 (AD 78/9) and P. Mich. Inv. 6789([1]). As is well known, the first editor of p^{46} F.G. Kenyon abandoned his former dating perhaps owing to statements by U. Wilcken([2]) and then assigned the papyrus to a date not later than the first half of the third century([3]). This dating([4]) has since been accepted without reference to dated parallel papyri from the third or second centuries. After carefully examining the plates of p^{46}, I have been able to isolate the decisive criteria for establishing the date of the papyrus.

Firstly, I examined the ligature forms of p^{46}, which until now have not received due notice([5]). This sort of calligraphic hand with its striking effort to keep the upper line([6]) (fol 8^{r} 9,  and fol 24^{v} 9, ) is unknown to me after the first century at least in consistent usage and is found mostly in the later([7]) Ptolemaic period. Another calligraphic feature, which belongs to an added hand, seems to determine the papyrus' terminus ad quem. This style (fol 28^{v} 11, ) appears from the second century BC to the early second century AD([8]); within the first century a similar form of writing is found in P. med. I 7 (AD 13/4); P. Oxy. II 326 (AD 45); P. Lond. II 1166 (AD 42); P. Ups. Frid 1 (AD 48); BGU I 350 (AD 98-117) etc. Secondly, all literary papyri similar to p^{46} in its exact style (Fig. 1)([9]) have been assigned to an early date, e.g:

P. Oxy. XV 1790 -- the middle or rather the latter half of the first century BC (B.P. Grenfell and A.S. Hunt), the reign of Augustus (W. Schubart)([10])

P. Mil. Vogl. Inv. 1181 int. -- I AD (Cl. Gallazzi)([11])

P. Oxy. XXII 2337 -- terminus post AD 65

P. Mich. Inv. 6789 -- the latter part of the first century or the second century AD (T. Renner)

P. Alex. Inv. 443 -- the second half of the first century (G. Cavallo and T. Luzzatto)([12])

P. Med. Inv. 70.01 verso -- AD 55 (O. Montevecchi)([13])

P. Oxy. LIII 3695([14]) -- the first century (E. Lobel), the later first century (M.W. Haslam)

P. Ryl. III 550 -- early in the second century (C.H. Roberts).

Moreover, p^{46} may be compared with other similar literary hands, which further disclose the particular style of p46:

P. Mon. Gr. Inv. 216 -- the second half of the first century BC (G. Cavallo, C.H. Roberts, E.G. Turner, P. Fabrini and F. Maltomini)

P. Berol 6926 + P. Gen. Inv. 100 -- terminus ad AD 100/1, before the middle of the first century, or probably the last Ptolemaic period (U. Wilcken)([15]), the reign of Augustus (W. Schubart)([16]), the second half of the first century (C.H. Roberts)

P. Gr. Berol. 19c -- the last decade of the first century (W. Schubart)([17])

P. Oxy. I 8 -- AD 50-150 (B.P. Grenfell)([18])

P. Gr. Berol. 29b -- the first half of the second century (W. Schubart)([19]), AD 50-150 (B.P. Grenfell)

P. Hamb. III 193 - I AD (B. Kramer and D. Hagedorn)([20])

P. Oxy. LIII 3721 -- the second half of the second century (M. W. Haslam).([21])

In these papyri we perceive a somewhat independent and widespread style in which the knobbed *alpha*, and sometimes the same movement of strokes as in P. Oxy. XV 1790, is consistently found. For an understanding of the style I may also suggest a comparison between BGU I 37 (AD 50) and P. Giss. I 69 (AD 118/9), for p^{46} makes it clear that a book hand is to a certain degree correlative with its running hand. But p^{46} belongs to the earlier type of these styles([22]). The following reasons support this judgement:

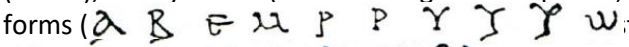
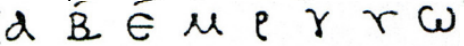
1) P^{46} presents a distinctly early appearance in the form of finials at the feet of letters, which is represented by the examples dated from the last quarter of the third century BC to the third quarter of the first century AD; comparable are P. Cair. 65445, the latter datable hand (?) and P. Med. Inv. 70.01 verso.

2) It exhibits the earlier forms in a few letters, especially the *beta* and the *upsilon*; comparable are P. Cair. 65445, the latter datable hand (?) and P. Mon. Gr. Inv. 216.

3) It has not been influenced by the blob-ornamental style, which is found in e.g. P. Oxy. XLI 2987 (AD 78/9), or the decorated style finishing with an obliquely rake-formed serif([23]). Among papyri of the same type as p^{46}, P. Hamb. III 193 may be considered a good example of influence by this decorated style. The same applies to P. Gr. Berol. 19c, but P. Hamb. II 193 makes an earlier impression. We are virtually able to determine the precise period of this ornamental style. In particular, P. Oxy. XLI 2987([24]) is comparable with P. Oxy. XXVI 2450 and XXX 2256, which also may be readily compared with P. Hercul. 994, 1676; P. Oxy. VIII 1083, XVII 2453; P. Oxy. Hel. 6. In this connection, P. Oxy. VIII 1082 agrees with P. Brem. 6 (in the early reign of Hadrian) in groups of narrow letters (ε, θ, ο, σ), in the first vertical movement of the *alpha* and the *delta*, and in the *upsilon*. The decorated style may, therefore, be assigned at least up to the Trajan-Hadrian period. This also seems to have been the view of A.S. Hunt([25]). The decorative form, however, continues even afterwards to have influence on another style, e.g. P. Turner 1, P. Oxy. XLII 3010, XXXIV 2689, and the probably very late P. Oxy. XLII 3030. Here I may suggest that P. Ryl. III 550

belongs to the more or less earlier type than P. Oxy. XIII 1622 (terminus *ante* AD 148, probably Trajan-Hadrian period).

4) When p^{87} is compared to the second hand of P. Oxy. V 841 (terminus post the reign of Titus; the first hand is not able to be assigned to a date after the earlier decades of the second century AD), one may say that p^{46} gives a very early impression of style. Consequently, it may be said, if so useful, that p^{46} is, in agreement with A.S. Hunt and probably E.G. Turner([26]), an upright informal uncial of an early type.

For an adequate paleographical evaluation of p^{46}, I have given special consideration to papyri: P. Med. Inv. 73.06 (AD 2); P. Lond. 136 verso([27]); P. Ryl. II 131 (AD 31); P. Lond. 177 (AD 40/1); P. Oxy. II 318 (AD 59); P. Oxy. II 320 (AD 59); P. Heid. Inv. G. 1017 (the reign of Nero); PSI XIII 1319, the second hand (AD 76); P. Lond. 2078 (in the reign of emperor Domitian, possibly AD 87)([28]); PUG II 62, the second hand (AD 98). These I have compared to dated documents in literary-type hands: P. Princ. III 147 (AD 87/8); P. Lond. II 141 (AD 88); P. Oxy. XLII 3051 (AD 89); P. Ryl. II 107 (AD 90); P. Oxy. II 270 (AD 94); P. Fayum 110 (AD 94); P. Oxy. II 211 (from the reigns of Vespatian, Domitian, and Trajan)([29]). As a result, a group of forms ( tinguished from the dominant group of forms []([30]) since the reign of emperor Domitian. This strongly suggests that p^{46} was written some time before the reign of the emperor Domitian. Thirdly, p^{46} reserves the **εγ–** form instead of the **εκ–** form before compounds with **β, δ,** and **λ**:

εγβασιν Heb 13,7; 1 Cor 10,13	**εγδικος** Rom 13,4
εγλεκτον Rom 16,13	(**εκλεκτων**, Rom 8,33)
εγλυω Heb 12,3,5	**εγλεληεθε** Heb 12,5
εγλογη Rom 9,11; 11,5,7,26.	

At the end of the nineteenth century it was generally thought that the regular **εγ–** form before **γ, β, δ, λ, μ, ν** in Attic inscriptions was regularly changed since the first century BC into the **εκ–** form([31]). The research of W. Cronert, E. Mayser, and F.T. Gignac, however, has disclosed that their alternative or exceptional usage is found in papyri after the first century BC. This was ascertained through the following examples, which have exact parallels in p^{46}:

εγβασις P. Fayum 91,11 (AD 99)([32])	/**εκβασις** P. Ryl. II 122,5 (AD 127); 157,9,11 (AD 135)
εγδικος P. Merton 104,11 (Ia AD)([33]) P. Oxy. II 261, 14 (AD 55)([34]); XXXVI 2757, ii, 3 (AD 69/71) PSI 791,1 (VI AD)	/**εκδικος** P. Oxy. II 237, vii. 39 (AD 186); P. Strassb. 196, 3 (II AD); PSI 1411,19 (II AD)
εγλανθανω P. Iatr. (?) once([35])	/**εκλανθανω** P. Lond. Lit.6 +P. Ryl. II 540 + P. Lib. Congr. 408B (terminus ad the reign of Domitian) once
εγλεκτος P. Fayum 102,3 (AD 105?)([36])	/**εκλεκτος** P. Oxy. XXXI 2603,31 (IV AD)

εγλογη P. Teb. I, 5, 116 (118 BC)([37]); P. Oxy. XLI 1979, 13 (3 BC); P. Hercul. Philodemi	/εκλογη P. Ryl. III 598, (92/1 or 58 BC); P. Hercul. 1007 (terminus ad AD 79)([39]); P. Ryl.II 157,5 (AD 135)
περι ποιηματων BETA (terminus ad AD 79) three times([38]); P. Oxy. Hels. 31,23 (AD 86); P. Soterichos 4,21,23 (AD 87); PSI 770,16 (AD 187)	
εγλυειν P. Teb. III i, 798,7 (II BC)([40]); I 49,6 (113 BC)([41]); I 54,16 (86 BC)([42]); P. Hercul. 182 (terminus ad AD 79)([43]); P. Oxy. Hels. 45,14 (I AD); P. Teb. III/1 798,7 (IIa AD); P. Amh. 80,9 (AD 232/3)	/εκλυειν P. Oxy. XXVII 2457,2 (I/IIa AD)

On the basis of these examples, we should regard the regular usage of the *eg-* form as a clearly original feature of the Pauline epistles. It also seems most likely that the regular usage of the *eg-* form gradually disappeared probably after the early second century AD. There is truly a good corrected example in P. Oxy. XLIV 3152,ii, 13; Fr. 4,8. It is because of this change, I think, that all biblical MSS (with the exception of εγλυου in p^{13} and p^{46}, of course) show only the *ek-* form at least in the Pauline epistles([44]). Nevertheless, three early biblical texts (P. Fouad 266([45]); the Minor Prophets of Wadi Murabba'at([46]); 4Q LXX Lev^{a}([47])) preserve the *eg-* form. Finally, some previous palaeographers([48]) may sometimes have been influenced in their dating p^{46} by the omission of *iota acscriptum*, usage of nomina sacra, and perhaps the Greek transliteration of a Latin name Σιλβανος. Now, however, these features turn out to have no bearing on my giving an early date to p^{46}. Two biblical papyri (P. Oxy. L 3522 and the Minor Prophets of Wadi Murabba'at) have provided biblical texts([49]) of the first century AD omitting *iota* adscript. And the early usage of nomina sacra has been attested by a non-biblical papyrus fragment (PSI 1200 addendum ([50])), which was perhaps written about the same time as p^{46}. Finally, as early as 1892 Th. Eckinger cited examples of Σιλβανος four times in an inscription of ca. AD 4/5 (but Σιλουανος three times from the first century), and O. Cair. J.E. 38622 (I/II AD) illustrates the name Σιλβανος together with P. Oxy. II 335 (AD 85) and an exceptional calligraphical form of abbreviation [– ỹ] –υμεν([51]).

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Footnotes:

(*) I should like to express my deepest gratitude to Dr. Revel Coles in Papyrology Rooms of Ashmolean Museum. I have followed his comments (30 Aug. 1986) at important points in this paper. Thanks are also greatly due to Prof. Peter Parsons at Oxford whose criticism (4 Sept. 1986) considerably improved my paper. I should also like to thank Prof. DDr. h. c. Martin Hengel and Rev. Prof. C.F.D. Moule for encouraging me, and Prof. J. K. Elliott, who kindly informed me of the address of Mr. T.C. Skeat, who, however, was at present not able to comment on the study (Letter of 12 Sept. 1986). My thanks to Will Deming and Dr. F. Stanley Jones for help with my English. I should like here again to express my gratitude to the editors of this journal for their considerable suggestions.

[1] See T. RENNER, "Four Michigan Papyri of Classical Greek Authors", *Zeitschrift fur Papyrologie und Epigraphik* [ZPE] 29 (1978) 16-21.

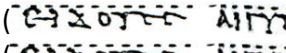
[2] The dating of U. Wilcken was assigned on the basis of one leaf (fol 86^{r}) as follows: "Ja, die Unzialschrift konnte ich mir schon in II. Jahrh. vorstellen, doch weist die kursive Zeile mit der Stichenzalung vielleicht doch schon auf das III. Jahrh. hin, aber mit einem alteren Eindruck als Taf. I" (*Archiv fur Papyrusforschung* 11 [1935] 113). It is thus apparent that he also thought that the stichometrical notes are more or less contemporary with the main hand. Cf K. OHLY, *Stichometrische Untersuchungen* (Leipzig 1928) 86ff.; T. C. SKEAT, "The Length of the Standard Papyrus Roll and the Cost-advantage of the Codex", *ZPE* 45 (1982) 174.

[3] Cf. F. G. KENYON, "A Third Century Papyrus Codex of the Epistles of St. Paul, edited by Henry A. Sanders. University of Michigan Studies, Humanistic Series, Vol. XXVIII Ann Arbor, 1936", *American Journal of Philology* 57 (1936) 93; IDEM, *The Chester Beatty Biblical Papyri*: Fasc. III Suppl. Pauline Epistles (London 1936) Text XV and Plates preface.

[4] The newer criterion for estimating age was, according to F. G. Kenyon, that calligraphically the finest is also the earliest. Though the letters of P^{46} are rather early in style, he said its type had lost a little of the simplicity of the best hands of the Roman period. Consequently, the terminus ad quem of P^{46} was confirmed, as usual, by the cursive stichometric subscriptions. Cf. *The Chester Beatty Biblical Papyri*: Fasc. I, General Introduction (London 1933) 13-14; Fasc. III, Pauline Epistles and Revelation (London 1934) IX; "A Third Century Papyrus Codex", 93.

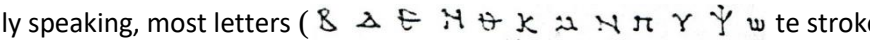
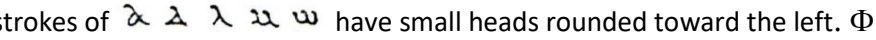
[5] H. A. Sanders, who first saw the 30 most important leaves, claimed very mistakenly that there are no ligatures and made no paleographical mention of the added hands. F. G. Kenyon indicated only that the corrections in a second hand are occasional and too small to assist the dating. G. Zuntz carefully distinguished the different hands and noticed that the same hand added the page numbers and wrote the number of stichoi under most of the epistles. Recently, J. R. Royse has again classified the corrections in P^{46}. Cf. H.A. SANDERS, *A Third-Century Papyrus Codex of the Epistles of Paul* (Ann Arbor 1935) 12-13; F. G. KENYON, *The Chester Beatty Biblical Papyri*: Fasc. III Suppl. Pauline Epistles (London 1936) XV; G. ZUNTZ, *The Text of the Epistles* (The Schweich Lectures of the British Academy 1946; London 1953) 252-254; J. R. ROYSE, *Scribal Habits in Early Greek New Testament Papyri* (Diss., Graduate Theological Union 1981) 627-640.

[6] Cf. P. Ryl. III 531. This convention to keep to the upper line may be of ancient age like dots dividing into words (from Ugaritic scripts until the paleo-Hebrew of Qumran) or the colophon-form containing the

stichometric note in ancient literary texts, e.g., J. A. BLACK, "Babylonian Ballads: A New Genre", *Studies in Literature from the Ancient Near East* (ed. J. M. SASSON) (New Haven 1984) Figure 1 Reverse, BM 47507; cf. also V. GARDTHAUSEN, "Die alexandrinische Bibliothek, ihr Vorbild, Katalog und Betrieb", *Zeitschrift des Deutschen Vereins fur Buchwesen und Schrifttum* 4-6 (1922) 85. In any event, Ptolemaic writing is clearly distinguished in the three following ways from Roman writing: (1) the effort to keep the line, (2) the informality of letters, (3) the directions of strokes. Especially in the Roman period there are a few ways of keeping the line, e.g., to keep only the upper line, to combine the horizontal strokes of ε, η, θ, σ, τ with wide spread in time, to keep the lower line (cf. P. Oxy XLVII 3332, P. Tebt. Tait 46. W. SHUBART, *Griechische Palaographie* [Handbuch der Altertumwissenschaft, I, iv/1; Munchen 1925] Abb. 99), and to keep the upper and lower lines. The ligature ways of vertical calligraphy in p^{46} () are a decidedly early type, as is also the main hand ().

[7] This agrees with comments by Revel Coles to me, but the ligature ways would seem to have originated from the second century BC.

[8] This form is found exceptionally in P. Amh. I 92 (AD 162-3), 11, 14, 22, but the vertical stroke of the *kappa* indicates clearly its own time. Conversely, a great chronological difference is visible in two added hands (fol 37^{v} and fol 56^{v}). Such a chronological difference is not a rare phenomenon, for a later Ptolemaic papyrus (P. Oxy. XIX 2214), to which additions were made by a hand of the later second century AD, was long treasured, probably together with P. Oxy. XIX 2212, 2213 (cf. E. G. TURNER, "Roman Oxyrhynchus", *JEA* 38 [1952) 93). In the case of p^{46}, hands of the correctoi ndo not all belong only to the later centuries. Of course, the stichometric notes and paginations are no doubt additions from a so-called "Bibl. Majuscule hand" (for this terminology I am indebted to the editors of the journal *Biblica*, cf. E. G. TURNER, *Greek Manuscripts of the Ancient World* [Princeton 1971] introduction 25; concerning its early type, cf. P. Hercul. 1457 -- D. BASSI, *Papyri Ercolanesi* Tomo 1 [Milano 1914] 7 plates) in G. Cavallo's system of classification (see Fig. 2). But the hand prefixed TA to 1. 7 of fol 54^{v} appears from SCHUBART, *Griechische Palaographie*, Abb. 26 l. 10 through P. Oxy. III 473 probably up to the third century AD, e.g., P. Oxy. XLII 3075 (AD 225), but the slight looping, sloped toward the left, makes an earlier impression. The hands added MEN on 1. 16 of fol 53^{v} and ΓΕΝΗ on 1.13 of fol 55^{v} should not be dated late in the third century, as C.H. Roberts thought (ZUNTZ, *The Text of the Epistles*, 254), but should be long-dated e.g., from SCHUBART, *Griechische Palåographie*, Abb. 31 (AD 83) to P. Amh. I 72 (AD 246). Particularly the hand of fol 53^{v} may be assigned to [a] somewhat earlier date by virtue of the flatly elongated movements.

[9] Generally speaking, most letters ( te strokes. The *upsilon* has two forms, as also in P. Heid. 2 (130 BC, cf. R. SEIDER, *Palaographie der grieschischen Papyri*, I, Abb. 15) and PSI IV 320 (AD 18, cf. R. PINTAUDI, "Papyri greci e latini a Firenze, Secoli III a.C. -- VIII d.C.", *Papyrologica Florentina* XII [Firenze 1983] tav. XI); its decoration is formed by the hyphenated foot or, more often, by the finial stretched out toward the left like the vertical stroke of other letters. The oblique strokes of  have small heads rounded toward the left. Φ and often Ρ are angle-formed, as one sees sometimes, though rarely, in early inscriptions and papyri, e.g., Herculaneum papyri, P. Oxy. XXI 2295; XXX 2528 etc. The *beta* and the *epsilon* are early forms. For the *beta*, cf. P. Merton 29 (154 or 143 BC); P. Lond. II 354 (7/4 BC); PSI IV 320 (AD 18); P. Teb. 568^{r}, the second hand (AD 20/1); P. Oxy. II 282 (AD 30-35); P Oxy II 246 (AD 66) etc. For the *epsilon*, cf. P. Ryl. II 131 (AD 31); P. Lond. 177 (AD 40/1); P. Oxy. XXIV 2387; P. Lond. 136 verso; P. Ryl. III 486 etc. It may be suggested that the tendency to be down-curved in the third stroke of the *epsilon* is, alongside of beginning with a space

slightly left blank, a notable mark of early Roman hands (cf. P. Berol. 16895 + 21284; PSI X 1176; P. Lond. Lit. 6 + P. Ryl. III 540 + P. Libr. Congr. 4082 B; P. Ryl. III 486; P. Oxy. II 225; P. Oxy. II 216; P. Oxy. XXI 2299; P. IFAO Inv. 23, the second hand; P. Fayum 6; P. Oxy. XII 2225; P. Oxy. II 282; P. Amst. I, 1 etc.). For the general stroke of most of the letters p^{46} is apparently well comparable to two literary-type hands: P. Fayum 6; P. Oxy. II 246 the first hand (AD 66).

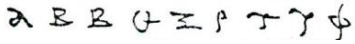
[10] SCHUBART, *Griechische Palåographie*, 116. But to this dating there is some room for doubt, for the coronis form comes near to the form of the second century (see Fig. 3).

[11] CL. GALLAZZI, "Glossario a Homerus, Odyssea I 46-53", *ZPE* 45 (1982) 41. This school hand may be compared barely only with P. Oxy. XXXI 2555 among the examples of Cl. Gallazzi, or rather with PSI IV 320 and P. Oxy. XXXIX 2879. These corrections were owing entirely to the careful observations of the editors.

[12] About the papyri (P. Alex. Inv. 443 and P. Mon. Gr. Inv. 216), see A. CARLINI, *Papyri Letterari Greci* (Bibliotheca degli Studi Classici e Orientali 13; Pisa 1978) 113-118, 237-266, reprinted in the *Papyri der Bayerischen Staatsbibliothek Munchen* (Stuttgart 1986) II, 40-59.

[13] O. MONTEVECCHI, "Nerone a sua polis e ai 6475", *Aegyptus* 50 (1970), 5-33; IDEM, *La Papyirologia* (Torino 1973) tav. 42; O. MONTEVECCHI and G. GERACI, "Documenta papyracea inedita ad Neronis atque Othonis principatus pertinentia in Papyris Mediolanensibus reperta", *Akten des XIII int. Papyrologenkongresses* (Munchner Beiträge zur Papyrusforschung 66; Munchen 1974) 293-307. This is a rare example in which the archaic form  is grouped with the young form  (a new development in the Ptolemaic form, e.g., P. Petrie, 19, 225 BC). The scribe may be someone like an elder. Though notarial in style the hands of P. Oxy. II 318 and 320, both of which belong to the latest material within the archive of Tryphon (AD 11-61), may represent an already prevalent style, together with P. Heid. Inv. G. 1207 (AD 61/2) etc. P. Fayum 110, whose sender (Gemellis) was sixty-one years old at the time, represents the hand of the later first century (the first hand stands in close proximity to the second hand).

[14] The coronis form (see Fig. 3), asteriscus form (especially fig. 21), and corrected hand belong, comparable with the textual hand, to an early date.

[15] U. WILCKEN, "Ein Neuer Griechischer Roman", *Hermes* 28 (1893) 161-193. Of greater interest are  . Two features, the fluent movements of every vertical stroke and the succeeding horizontal line of present an independent style.

[16] SCHUBART, *Griechische Palåographie*, 112.

[17] SCHUBART, *Griechische Palåographie*, 118.

[18] About the dating of P. Oxy. I 8 and P. Gr. Berol. 29b, cf. B. P. GRENFELL, *The Oxyrhynchus Papyri*, Part XIII (London 1919) 180.

[19] SCHUBART, *Griechische Palåographie*, 124.

[20] B. KRAMER and D. HAGEDORN, *Griechische Papyri der Staats-und Universitåtsbibliothek Hamburg* (Papryrologische Texte und Abhandlungen 31; Bonn 1984) 12-14.

[21] P. Parsons was kind enough to draw my attention to this papyrus. M. W. Haslam has compared it with P. Oxy. XLIV 3156 an P. Oxy. XXVI 2450. With the exception of the added hand, I would not agree with Haslam's dating. I see an early feature in the *epsilon* (cf. PSI XI 1214; P. Oxy. LIII 3685) and the *xi* (cf. P. Oxy. XXXVII 2632; P. Oxy. II 282, in comparison with the elegant form Ξ). More notice should be taken of the *upsilon*, which is formed with a deep bow on the top of an upright stroke (cf. P. Oxy. XXI 2295; P. Oxy. XIX 2223, 2226; P. Gr. Vindob. 1999B; P. Oxy. II 318, 320 (AD 59)). I am personally inclined to think a date up to the reign of the emperor Trajan to be probable in the case of P. Oxy. XLIV 3156 (noticeable are the three movements of the *tau*, the second and third movements of the *mu*, which are deeply curved, an *omicron* that is a little too large, and the hyphenated decoration) and P. Oxy. XXX 2526. The contrast between wide and narrow letters does not prove much, for such a contrast can be seen as early as the fourth century BC, cf. P. Gr. Berol. 2; P. Ibscher (G. MANTEUFFEL, "Papyri e Collectione Varsoviensi. 4. Legum Iudicialium Fragmentum"; *Journal of Juristic Papyrology* 2 [1948] 81-103, Tab. II); The Herculaneum Papyri (F. SBORDONE, *Ricerche sui Papyri Ercolanesi*, II [Napoli 1976] tavv.); H. J. M. MILNE, "A New Fragment of Theophrastus", *The Classical Review* 36 (1922) 66-67; C. H. ROBERTS, GLH 15b (AD 145-6); P. Hamb. III 198 (terminus ad AD 156).

[22] A later development of this type among Biblical papyri is witnessed in, e.g., P. Köln IV 170 (p^{87}); probably P. Ryl. 457 (p^{52}, a fairly exceptional style, but not entirely only calligraphic); P. Ryl. I 5 (p^{32}); P. Oxy. IV 656 (Genesis); P. Oxy. L 3523 (p^{90}); P. Oxy. I, 2 (p^{1}).

[23] These finals appear frequently in the so-called Roman Uncial of G. Cavallo. On the Roman Uncial, see G. CAVALLO, "Osservazioni paleografiche sul canone e la cronologia della cosiddetta 'onciale romana'", *Annali della scuola normale superiore di Pisa* (Lettere, storia e filosofia), Ser. II, 36 (1967) 209-220 with 12 plates; P. J. PARSONS, "Cavallo, Ricerche sulla maiuscola biblica", *Gnomon* 42 (1970) 375-380; TURNER, *Greek Manuscripts*, 38.

[24] In connection with p^{46}, the two forms of the *upsilon, nu*, and *mu*, the vertical stroke of the *nu* and *iota*, and the *xi* are of considerable interest.

[25] *The Oxyrhynchus Papyri*, Part XV (London 1922) 191.

[26] *The Oxyrhynchus Papyri*, XV, 114; TURNER, *Greek Manuscripts*, introduction, 24.

[27] H. J. M. Milne assigned the document on the recto to the reign of emperor Augustus (*Catalogue of Literary Papyri in the British Museum* [London 1927] 21). Truly this Homer papyrus has to do with its own time only through the form [of] Y. Without this form it must be ascribed to the third century AD as F. G. Kenyon did (*Classical Texts from Papyri in the British Museum* [London 1891] 94). For p^{46} the oval *epsilon* is of greatest interest.

[28] Cf. *New Palaeographic Society*, Series II (1913-30) 98.

[29] In the original publication of this Menander papyrus, the editors demonstrated that the papyrus was found together with a large number of documents dated to the reigns of Vespasian, Domitian, and Trajan, e.g., P. Oxy. I 45 (AD 95), 97 (AD 115-6), 174 (AD 88) and 373 (AD 79-80) (cf. *The Oxyrhynchus*

Papyri, Part II [London 1899] 11). About the other contemporary examples, cf. S. DARIS, "Ricerche di Papirologia Documentaria", *Aegyptus* 63 (1983) 161, n. 115.

[30] For the exact understanding of the spread of these rather rounded forms in time, cf. P. Ryl. II 154 (AD 66); P. Fayum 110 (AD 94); P. Giss. Univ.-Bibl. Inv. 251 (AD 136); P. Wisconsin II 81 (AD 143); P. Oxy. III 473 (in the reign of the emperor Antoninus Pius); P. Merton 71 (AD 160-3); BGU V 1 (about AD 170); P. Mich. 532 (AD 181/2); P. Oxy. XLII 3076 (AD 225?); P. Oxy. XVII 2105 (AD 231-6); P. Oxy. XXXVIII 2854 (AD 248).

[31] Cf. K. MEISTERHANS - E. SCHWYZER, *Grammatik der Attischen Inschriften* (Berlin 1900) 106-109; L. THREATTE, *The Grammar of Attic Inscriptions*, I (Berlin - New York 1980).

[32] F. T. GIGNAC, *A Grammar of the Greek Papyri of the Roman and Byzantine time Period*, I (Milan 1976) 175.

[33] GIGNAC, *A Grammar*, 174.

[34] GIGNAC, *A Grammar*, 174.

[35] W. CRÖNERT, *Memoria Graeca Herculanensis* (Lipsiae 1903) 53.

[36] GIGNAC, *A Grammar*, 175.

[37] E. MAYSER - H. SCHMOLL, *Grammatik der Griechischen Papryi aus der Ptolemåerzeit*, I/1 (Berlin 1970) 202.

[38] CRÖNERT, *Memoria*, 53.

[39] CRÖNERT, *Memoria*, 53.

[40] MAYSER - SCHMOLL, *Grammatik*, 202.

[41] MAYSER - SCHMOLL, *Grammatik*, 202.

[42] MAYSER - SCHMOLL, *Grammatik*, 202.

[43] CRÖNERT, *Memoria*, 53.

[44] At least within the Pauline epistles the εγ- form is not visible in any of the MSS, on which point F. G. Kenyon and A. Debrunner (F. BLASS - A. DEBRUNNER, *Grammatik des neutestamentlichen Griechisch*, Teil II: Anhang [Göttingen 1943] 5) were mistaken. The word εγλυου is retained once in p^{13} by conservatism as it is in a few of the examples listed above. By the side of it, in P. Oxy. IV 656 (Genesis), which was unearthed together with p^{13} and P. Oxy. IV 654 (The Gospel According to Thomas) and one of the libelli (AD 250) from the mound with the shêkh's tomb belonged to the third century AD, with some specimens of the second and fourth centuries (B. P. GRENFELL and A. S. HUNT, "Graeco-Roman Branch", *Egypt Exploration Fund. Archaeological Report 1902-03*, 6-8), appears the εκ- form (εκλυ[εις, Gen 27:40).

It is also noteworthy that βυβλος is used in p^{46} together with βιβλος (Gal 3:10, cf. βιβλιον Heb 9:19; 10:7, cf. MAYSER-SCHMOLL, *Grammatik*, 80; CRÖNERT, *Memoria*, 21-22; GIGNAC, *A Grammar*, 268). In orthography there is generally a strong preponderance of agreement with D^* F G or B^*. When p^{46} disagrees with B^*, B^* agrees mainly with D^c E K L P or exceptionally with F G. There are yet a number of notable spellings peculiar to p^{46}, e.g., εφ' ελπιξει (1 Cor 9:10, cf. Rom 8:20 εφ' ελπιδι -- for this spelling I am also indebted to the editors).

[45] Cf. F. DUNAND, *Papyrus Grecs Bibliques (Papyrus F. Inv. 266)* (Recherches d'Archéologie, de Philologie et d'Histoire, XXVII; Le Caire 1966) 15. The suggested dating of this papyrus is very questionable. P. Fouad Inv. 266, which is comparable with Würzb. Sosylos-Papyrus (U. WILCKEN, "Ein Sosylos-Fragment in der W&252;rzburger Papyrussammlung", *Hermes* 41 (1906) 104-105; for the Photographs, see SEIDER, *Palåographie* II, Nr. 10 and *ZPE* 27 [1977] plate I), may be assigned from the later third century up to the middle of the second century BC, for the short horizontal strike on the top of the third vertical stroke in the *nu* does not stretch long and the upper stroke of the oblique *epsilon* is short and not rounded. The *eta*, *mu* and *pi* are also of interest. Moreover, a calligraphy (Fr. 6, cf. SCHUBART, *Griechische Palåographie*, Abb. 7), probably P. Fouad Inv. 266 Addendum, and the tetragrammaton script, which is comparable with the Nash Papyrus (cf. S. A. COOK, "A Pre-Massoretic Biblical Papyrus", *Proceedings of Society of Biblical Archaeology* 25 [1903] 57, plate I; W. F. ALBRIGHT, "A Biblical Fragment from the Maccabaean Age: The Nash Papyrus", *JBL* 56 [1937] 146-172), support such a date. Now I do not think of a date later than P. Mich. 6982 (see *ZPE* 51 [1984] plate II), P. Sorbonne I, 5; P. Ryl. III 458; P. Teb. I 4 (= E. G. TURNER, *Greek Manuscripts*, N. 13, terminus ad 140 BC). In any event, P. Fouad Inv. 266 should be assigned to an earlier date than P. Berol. 9767 (= P. Gr. Berol. 11a); P. Oxy. XXIV 2399; P. Ryl. IV 586 (99 BC). Compare the *epsilon* and the *xi*. On the other letters, cf., I Cret. III, iv 4 (246 BC). Of great interest is the text of P. Fouad Inv. 266 in Deut 32:43 which preserves in Christian MSS (cf. Heb 1:6) and stands against the MT (cf. Z. ALY, *Three Rolls of the Early Septuagint: Genesis and Deuteronomy* [Papyrologische Texte und Abhandlungen 27; Bonn 1980) plate 47].

[46] Cf. D. BARTHÉLEMY, *Les devanciers d'Aquila* (VTS 10; Leiden 1963) 170-178; B. LIFSHITZ, "The Greek Documents from the Cave of Horror", *IEJ* 12 (1962) 201-207. The first publisher assigned the texts to the middle of the first century (D. BARTHÉLEMY, "Redécouverte d'un chaînon manquant de l'histoire de la Septante", *RB* 60 [1953] 19, n.3; *Les devanciers d'Aquila*, 168). C. H. Roberts, however, dated them more exactly between 50 BC and AD 50 in comparison with SCHUBART, *Griechische Palåographie*, Abb. 72 and Abb. 76 (P. KAHLE, "Der gegenwårtige Stand der Erforschung der in Palåstina neu gefundenen hebråischen Handschriften", *TLZ* 79 [1954] 81). In any event, the second writing (Zech 8:19-9:4) may be regarded as normal in the case of more or less early date. The hand may be so early as that of P. IFAO I 72 (23 BC) and is comparable to P. Hercul. 1425. Generally it makes an impression of strongly early first century AD on short leftward pointing serifs and the *mu*, but the strongly downward pointed horizontal stroke of the *tau* and the *xi* rejects it.

[47] P. W. SKEHAN, "The Qumran Manuscripts and Textual Criticism", *Volume du Congrès* (VTS 4; Leiden 1957) 159, l. 19. That dating of the first century AD is entirely improper. This hand can be approximately assigned to the first century BC in comparison with TURNER, *Greek Manuscripts*, 45 (c. 160 BC), P. Oxy. VI 866 and P. Oxy. XXXIII 2654 two hands, which cannot be apparently later than P. Oxy. II 356 (AD 27).

[48] On factors influencing the dating of early Christian papyri, see F. G. KENYON, *The Palaeography of Greek Papryi* (Oxford 1898) 93; B. P. GRENFELL and A. S. HUNT, *The Oxyrhrynchus Papyri*, Part II (London 1899) 2-3; H. I. BELL and T. C. SKEAT, *Fragments of an Unknown Gospel and Other Early Christian Papyri*

(London 1935) 2-3; F. G. KENYON, *Books and Readers in Ancient Greece and Rome* (Oxford 1951) 97; J. MALLON, "Quel est le plus ancien Exemple connu d'un Manuscrit Latin en forme de codex?", *Emerita* 17 (1949) 1-6; C. H. ROBERTS, "Early Christianity in Egypt: Three Notes", *JEA* 40 (1954) 94; E. G. TURNER, *The Typology of the Early Codex* (London 1977) 2-4, 11; C. H. ROBERTS, *Manuscript, Society and Belief in Early Christian Egypt* (Oxford 1979) 12, 26ff.; ZUNTZ, *The Text of the Epistles*, 260.

[49] Here I follow a comment by Revel Coles.

[50] A. CARLINI, "Amicus Plato...: A Proposito di PSI XI 1200, Gorg. 447B ss.", *Miscellanea Papyrologica* (Papyrologica Florentina 7; Firenze 1980) 41-45. PSI XI 1200 is written by the less common hand in Egypt. As in the cases of P. Oxy. III 405 (Irenaeus, *Contra Haereses* iii 9); P. Herc. 1676; P. Herc. 21457 it may not be a so-called 'Nationaltype' (cf. SCHUBART, *Griechische Palåographie*, 112; E. G. TURNER, "Scribes and Scholars of Oxyrhynchus", *Akten des VIII internationalen Kongresses für Papyrologie Wien 1955* [Wien 1956] 144). This type was also well witnessed in Egypt, for many useful books borrowed from Athens were copied in the period of Ptolemaios Euergetes, and the emperor Domitian had sent book-copyists to Alexander in order to make copies of the classical texts for a burned-out library in Rome (T. KLEBERG, *Buchhandel und Verlagswesen in Buchsbeschreibung verglichen mit der des vorderen Orients* [Halle 1949] 59-69). But PSI XI 1200 addendum seem to be a less unusual hand, which may be compared with the hands of P. Fayum 6; P. Oxy. XXVIII 2502; PSI XI 1212; PSI IX 1091; P. Hal. 4; possibly P. Lit. Lond. 27 (rightly see W. LAMEERE, *Aperçus de Paléographie Homérique* [Paris- Bruxelles 1960] plates 3, 6); P. Oxy. XXVIII 2495. It is also a very similar hand of p^{46}, though the latter may be slightly earlier than the former with the well rounded *epsilon* and duplicate types of the *upsilon*. Palaeographically it would be possible that PSI XI 1200 addendum is assigned more to the early second century AD, but might be as old as the last decade of the first century AD. For it, compare P. Oxy. II 211; SEIDER, *Palåographie*, II Nr. 29, 32; P. Köln Inv. 7511 (ZPE 14, 1974, plate V); PSI XIII 1305; P. Giss. I, 19; P. Giss. I, 3; P. Oxy. XV 1807 + P. Köln IV 185; P. Köln 178; P. Köln Inv. 2281 (ZPE 7, 1971, plate XI); PSI XI 1217, 1220 (PINTAUDI, "Papyri", plate LXI); P. Oxy. XVIII 2159-64, 78-9; III 473 (= TURNER, *Greek Manuscripts*, Nr. 69).

[51] TH. ECKINGER, *Die Orthographie lateinischer Wörter auf griechischen Inscriften* (Diss. Zürich 1892) 82-91. 52. C. GALLAZZI, "Supplica ad Atena su un Ostrakon da Esna", *ZPE* 61 (1985) 101-109.

Figure 1:

Fig. 1

Alpha	
Beta	
Gamma	
Delta	
Epsilon	
Zeta	
Eta	
Theta	
Iota	
Kappa	
Lambda	
Mu	
Nu	
Xi	
Omikron	
Pi	
Rho	
Sigma	
Tau	
Upsilon	
Phi	
Chi	
Psi	
Omega	

Figure 2:

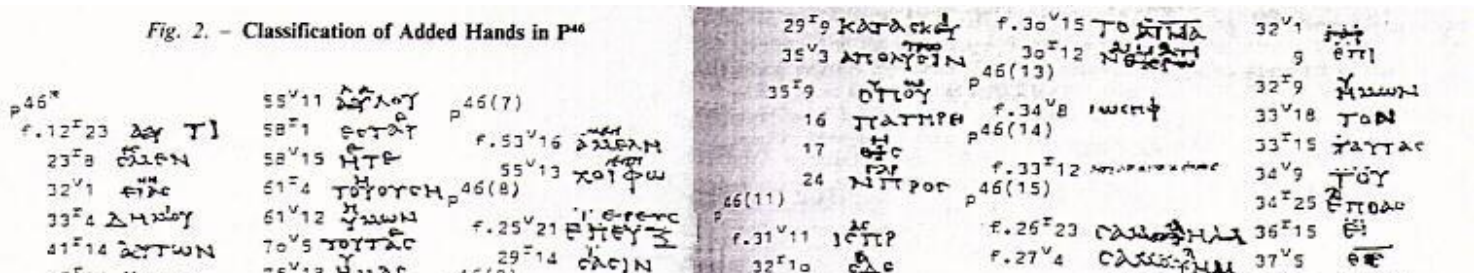


Figure 3:

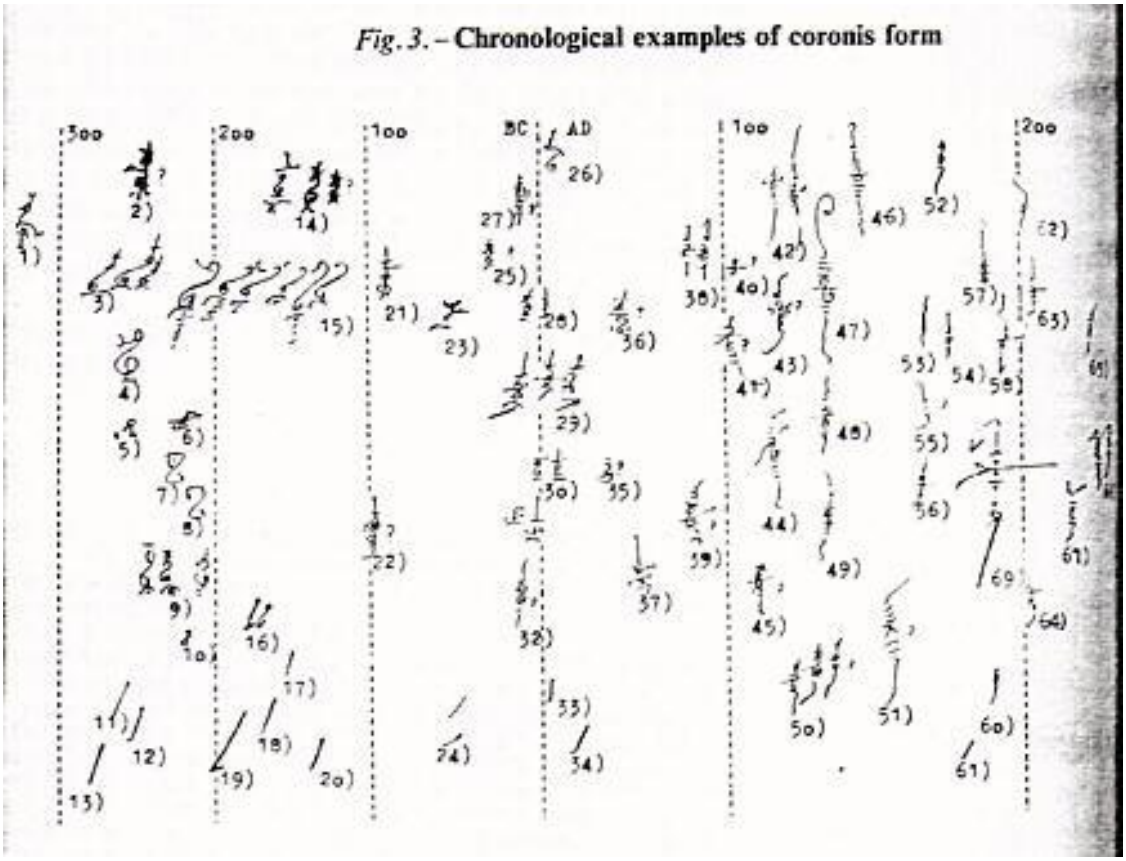


Fig. 3. – **Chronological examples of coronis form**