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THE ORDER OF EVENTS IN MATTHEW AND MARK

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A Problem and Its Solution

In Two Parts

PART II—THE SOLUTION

SECTION II

(Continued from April issue.)

In order that we may be in position rightly to judge of the reasonableness of the foregoing explanations, it will be necessary that we have before us certain facts and probabilities as to ancient rolls and codices. The five explanations assume that misplacements might occur and be perpetuated; that the variation of the block size from 101.3 to 129 words is not excessive; that the small average size of block, 111.6 words, is permissible; and that interruptions in the continuity of the writing material might coincide with eleven selected points of division in the text. It is advisable that all these questions be discussed in the light of what is at present known.

It is particularly to be noted that not all five of the explanations are required. One is, in fact, sufficient. At the same time, the case is much stronger, if all may be shown to be possible in the first Christian century.

THE ROLL

We have rolls dating from very ancient times indeed. There is thus no bar at all to assuming that all through the first Christian century rolls were in common use for the preservation of literary compositions. And such rolls might be either of papyrus or of parchment.

It is a matter of some interest whether rolls were at times made up by gumming together loose sheets that had already received the writing which was to be preserved. Sir E. Maunde Thompson in the article on *Manuscript* in the present or eleventh edition of the *Encyclopaedia Britannica* says:

“In writing the text of a work, the scribe might choose

to make use of separate sheets of papyrus, *κολλήματα, schedae*, and then join them to one another consecutively so as to make up the roll;"

Whether it was actually customary to proceed in this way, first inscribing the loose sheets and then gumming them into a roll, I am unable to prove. It is in itself not at all improbable, as this citation from the pen of a most experienced palaeographer tends to show. Apparently, he thought it so probable as not to require proof.

[Since the writing of the preceding paragraph, but prior to its actual publication, proof has come to hand. I am indebted to Prof. H. A. Sanders for a reference to the *Digest* of Justinian, 32.52.5, where there is mention of (*perscripti libri*) *nondum conglutinati*. This occurs in what is to be viewed as an excerpt from Domitius Ulpianus, and so carries us back to a date not later than 228 A. D., when this jurist died. Accordingly, we have here very good evidence that in his days the sheets for a book were sometimes inscribed throughout prior to being gummed into a roll.]

On the other hand, many rolls, perhaps the most, were certainly first made up in blank form and then inscribed. Martial, in his *Epigrammata*, writes as he approaches the end of a book:

"Ohe, iam satis est, ohe, libelle,
Jam pervenimus usque ad umbilicos."

4.89.

The bearing of the foregoing upon our problem of the order of events in Matthew and Mark is clear. If papyrus or parchment might first be inscribed while the sheets were not yet gummed together, then Mark may have been written in one order and deranged to another before any gumming together was done. This may have occurred in the very original, or in an ordinary copy. But, if this method may not be assumed, then the physical separation between blocks of text would have to occur subsequently to the inscription of the finished roll. This would have the effect of requiring breaks in the writing material between columns.

Such breaks might occur, whether the roll were of parchment or papyrus, because of frequent foldings and unfoldings at intercolumnar points. Parchment that had become dry would lend itself to breakage because of a greater or less degree of brittleness. Papyrus was frequently—perhaps generally—made by laying, for one face, strips side by side and parallel to the direction of writing, and, for the other face, strips side by side, but perpendicular to the others. There would thus be, for one layer, lines of weakness extending athwart the length of the roll. Naturally, such lines of weakness would lend themselves to the formation of transverse cracks. So, then, whether the roll were of parchment or of papyrus, cracks between columns were to be expected, if frequent foldings in and out occurred at these locations. Such foldings might easily occur, in a narrative Gospel made up of short incidents, if the reader sought to make a small roll not impossible for one hand by folding back both the right and left hand rolled up parts, one to one side of one or a pair of columns and the other to the other side. A reader might do this in private, his purpose being to secure comfort. Or, he might do it in the course of making an address or of instructing a class. His object might then be to release his right hand for the purpose of making gestures. That there is a natural desire to do something of the kind in connection with a book used as much as a Gospel or a Bible may be inferred from the popularity of our modern Oxford Bibles with flexible covers. In a passage excerpted later on from Martial, the author points out the desirability of being able to hold a book in one hand, *Epigr.* 1.2.

While our knowledge of rolls has advanced greatly in recent years, the subject is not at all exhausted. The remains are often in such a fragmentary and damaged condition that the physical characteristics of the original roll are very imperfectly disclosed. Doubtless, many rolls or parts of rolls are now extant in which the writing covers seams where sheet joins sheet. But a different practice may very well have been followed upon occasion. Thus, it may at times have seemed desirable to put the

columns between seams. If the writing were done while the sheets were still loose, a single column may have been inscribed on each of them.

Allowing that at times rolls were so inscribed that the several columns of writing fell between seams, one is prepared to conceive of the columns as later on being physically separated because of the failure of the seams through the action of moisture or through the deterioration of the gum.

Apparently, there is nothing known as to rolls, particularly rolls of the first Christian century, which forbids us from conceiving that it was a copy of Mark written on a roll that suffered derangement and that this roll may have been of parchment or papyrus and that it may have been inscribed and deranged prior to gumming or that the derangement may have occurred because of breakage between columns subsequent to gumming and inscription.

THE CODEX

The original of the codex is lost in the mists of ancient times. Sir E. Maunde Thompson¹ refers to triptychs, which are codices made from three single leaves or tablets, as pictured on Greek vases of the fifth and fourth pre-Christian centuries. Some are open, some closed. In his writings, Seneca, a contemporary of the Apostle Paul, gives us some valuable information. He states by implication that the ancients knew the tablet form of codex and goes on to say explicitly that in his day the public tablets were called codices.² Cicero, in the first century before Christ, says:

“On the final wax page of the codex.—In Verrum, 2.1.36.”

And again:

L. Piso filled up many codices with these things.—*Ibid.*, 2.1.46.”

We have actual examples of diptychs and triptychs from

¹*An Introduction to Greek and Latin Palaeography* (1912), p. 13.

²Plurium tabularum contextus *codex* apud antiquos vocatur, unde publicae tabulae *codices* dicuntur. Seneca, *De Brevitate Vitae*, 13.4.

the first Christian century. A large number were found in a box, all or most being business documents of a certain Pompeiian banker-auctioneer, L. Caecilius Jucundus. Prof. F. W. Kelsey's translation of August Mau's work, *Pompeii—Its Life and Art*, says (p. 490): "Most of the tablets are triptychs. The three leaves were tied at the back so as to open like the leaves of a book, making six pages. The average height is about five inches, the width varies from two to four inches. Pages 1 and 6 serve as covers, being left smooth and without writing. Pages 2, 3 and 5 were hollowed out, leaving a polished surface with a raised rim around it. On this surface, a thin layer of wax was spread, in which the letters were made with a stylus; the writing could be easily read because the wood, which was a light color, showed through wherever a scratch was made in the wax coating."

A painting found in the ruins of Herculaneum, which naturally dates from 79 A. D. or earlier, pictures a tabular form of codex which is seen to have four leaves.

Two wax triptychs, or three-leaved tabular codices, were found in the earlier half of the 19th century in two gold mines in Transylvania, one mine being in the village of Abrudbanya and the other four or five miles distant. These codices were in a good state of preservation. The wax was black and was surrounded by a raised margin of the wood constituting the leaves. The one codex was of fir, the other of beech. At the beginning of the inscription in the beechwood codex, occurred some Greek letters. These were followed by a considerable piece of text in unknown characters. The inscription in the fir codex was better preserved, and consisted of a Latin copy of a document having reference to some business connected with a collegium. The names of the Roman consuls were given and these determine the date as 169 A. D. Apparently, the thongs or rings which held the leaves of these codices together were gone when the discoveries were made, but there were still holes in the edges.

We undoubtedly have in the tablet type of codex the beginnings of the developed modern form in which the leaves go in pairs.

There are two important points as to which definite

information is apparently wanting. These are (1) the date when the tabular form began to be employed for literary documents and (2) the date when the folded-leaf form first came into use. As these matters cannot be determined with certainty, there is nothing to do but turn to probability.

It seems highly probable that a tabular codex of parchment or papyrus preceded the folded-leaf form. There was the combination (*contextus*) of a plurality of tablets which Seneca said the ancients called a *caudex*. Consequently, we are to assume at least a wooden form of tabular codex as existent for some indefinite period reaching back into pre-Christian centuries. As long as this type of book continued to be made only of such a cumbersome material as wood, it was doubtless used but little for extended narratives and other literary works. But it is not a long step to a compact group of parchment or papyrus sheets secured together by rings or loops at the side (or top) margin. These are simply the codices of Seneca's ancients made of a different material. Let us note then the fact that from the tabular wooden codex it is a much shorter step to the tabular parchment or papyrus codex than to the folded-leaf form. The latter step is an invention, whereas the former involves merely a change of material. It is, therefore, not at all unreasonable to assume that prior to the earliest years of the folded-leaf codex there was a period in which the tabular form was used for literary works.

Apparently, there is extant no papyrus or parchment scrap dating from any time prior to the second Christian century that is known to have belonged to any type of codex. That is to say, physical evidence is wanting for the first Christian century and earlier. However, there are indications of another kind. The epigrammatist Martial, during his residence in Rome and particularly during the reign of Domitian, wrote Books 13 and 14 of his *Epigrammata*. We have from the latter book some valuable indications. Epigrams 186, 188, 190 and 192, all have titles of the following type:

"Vergilius in membranis."

What are we to understand by "Vergil on parchments"? Does the plural mean parchment tablets? It is not clear in the case of Vergil, nor of Cicero, nor of Livy; but when we come to Ovid (192), the epigram itself gives some assistance:

"Haec tibi multiplici quae structa est massa tabella,
Carmina Nasonis quinque decemque gerit."

The sense is doubtless—

"This mass which has been made of many a tablet holds the fifteen books of [Publius Ovidius] Naso."

So we have here *tabella* after *tabella* of the *Metamorphoses*, the whole forming a mass. Perhaps this could be understood of a parchment roll, but it seems much better suited to single sheets of parchment.

Epigram 184 has title and text as follows:

"Homerus in pugillaribus membranibus."
"Ilias et Priami regnis inimicus Vlixes."
"Multiplici pariter condita pelle latent."

This may be rendered—

"Homer on tablet parchments."

"Helen and Ulysses foe to the realm of Priam
Are both invisibly preserved by many a sheet of parchment."

It seems natural to understand that here we have to do with a single manuscript containing both the Iliad and the Odyssey. Whether this is so or not, it is at any rate fairly clear that we have one or more manuscripts of Homer in tabular form.

There is still another epigram of Martial's which is more or less informative. It is one of the earliest:

"Qui tecum cupis esse meos ubicumque libellos
Et comites longae quaeris habere viae,
Hos eme, quos artat brevibus membrana tabellis:
Scrinia da magnis, me manus una capit."

Epigrammata 1.2.1ff.

"You who wish my booklets to be with you everywhere and seek to have them as companions on the long journey,

buy those which the parchment reduces in size with its small sheets. Leave the book-cases to the big books, one hand holds me."

This language seems ill suited to the roll. Could a roll be conveniently held in one hand? It probably refers to a codex, but whether of the tabular or folded-leaf form is not clear.

A very reasonable explanation of the evidence that has come down to us in the foregoing epigrams from the first Christian century is to the effect that the booksellers at Rome were selling compact literary parchment codices that could be held in one hand and that, within the period 81-96 A. D., the tabular form of parchment codex was existent and that in this style of book considerable Greek and Latin literary compositions were obtainable.

If the folded-leaf form of codex is to be assumed instead of the tabular, then these epigrams are to be viewed as indications that the tabular codex had already come in at a still earlier period. Folded-leaf parchment codices in existence in the last quarter of the first Christian century are, of course, no bar to the earlier existence of the same type. For aught we know to the contrary, both forms of codex may have been in considerable use in the times of Cicero and Caesar. At any rate, there appears to be no substantial reason for excluding them from the middle years of the first Christian century. As the first use of a tabular codex of soft material is to be assigned to a period earlier than the invention of the folded-leaf type, there seems no objection of weight against both types of codex having been in simultaneous use for literary compositions in early Apostolic times.

Actual examples of literary codices are extant for a period as early as that of the second Christian century. We have the things themselves, though only in fragmentary form. The remains from this and the following century are sometimes in such shape as to inform us that they represent folded-leaf codices; but sometimes this point cannot be determined and the fragment cannot further be classified than to say that it is part of what was once some kind of a codex. Thus, Pap. Oxy. 208 is a

remnant from a folded-leaf papyrus codex of the third century.³ That it belonged to the folded-leaf type is shown by the fact that the scrap that is now extant consists of the inner part of two conjugate leaves belonging to a single sheet. The outer parts are gone, but the beginnings and ends of the lines of writing are left. The one partial leaf contains text from near the beginning and the other partial leaf text from near the end of the Gospel of John. This fragment, small as it is, undoubtedly represents a folded-leaf codex. Again, Pap. Oxy. 2 is a fragment of a papyrus codex of the same early period. That the codex was of the folded-leaf type is evidenced by the fact that on one side of a fairly complete leaf is a little ear of papyrus belonging to the conjugate leaf on which are the beginnings of three lines of writing. In such cases as this and 208, the folded-leaf form is indicated. But when all that is left is a patch from the middle of a leaf or a corner, there may be enough evidence to determine that the fragment once belonged to a codex but not to differentiate between the tabular and the folded-leaf forms. Pap. Oxy. 1226 is a papyrus scrap, dating from the third rather than from the fourth century, which contains on the *verso* part of the text of Psalm 7 in Greek and on the *recto* part of that of Psalm 8. Evidently, we have a fragment of a leaf. It is an upper corner; but since we have the ends of lines on the earlier page and the beginnings on the later, the corner is from the outside. There is accordingly no way of deciding whether the leaf belonged to a tabular codex looped together at the inner margins of its sheets or whether it had a conjugate and formed part of a folded-leaf codex.

In view of the fact that the evidence is at times ambiguous, no one can say that we do not have the remains of literary codices of the tabular form dating from very early times.

As to the objection that if literary codices of the tabular or any other form were extant in Apostolic times, some remains should now be available, it may be said that but little weight should be attached to it. Cicero refers

³Grenfell & Hunt's *Oxyrhynchus Papyri*.

to codices existent in his day, but there are no known remains of them. Seneca refers to the codices of the ancients and of contemporary codices consisting of public documents. No fragment of any of them is known to be now extant. Martial uses language which seems to mean that parchment literary codices were existent in his day. But we do not know that a single fragment has survived to our time.

In fact, there appears to be no substantial reason to deny the existence in early Apostolic times of the parchment codex both in the tabular and in the folded-leaf forms. Nor is there apparent any good reason why the permissibility thus extended to parchment should not also be granted to papyrus. Consequently, if one wishes to think of the several Gospels as circulating from their very origins in both forms of codex, there appears to be no bar to his doing so. Nor is he restricted as to the material. It may very well have been parchment in one copy and papyrus in another.

I append a tabulation of some early codices, none later than the third Christian century.

MISPLACEMENTS

For convenience, one may divide misplacements of text into two classes: (1) those which are evidently misplacements, but whose mode of occurrence is not certainly known; and (2) those which may confidently be ascribed to physical dislocations of portions of the papyrus or parchment.

As an example of the first class, I may cite the book of Jeremiah. Either the Hebrew or the Septuagint text has suffered derangement through misplacements. The Septuagint text-order may be derived from the Hebrew by lifting the six chapters 46-51 *en bloc* and setting the whole down in the middle of ch. 25, and then by breaking up this block into nine fragments and redistributing them amongst themselves. Whether the misplacements actually took place in the one text or in the other, they did occur and they have been perpetuated.

FRAGMENTARY REMAINS OF EARLY CODICES

Second and Third Christian Centuries

Reference Data.	Material.	Century Assigned.
<i>Kretes</i> (Euripides), Berliner Klassikertexte, Heft V, 2te Hälfte, XVII. See comment of A. S. Hunt on No. 1007, p. 1, vol. 7 (1910), <i>Oxyrhynchus Papyri</i> .	Parchment	2nd
<i>De Falsa Legatione</i> (Demosthenes), F. G. Kenyon, <i>Journal of Philology</i> , vol. 22 (1894), p. 247f. and <i>Palaeography of Greek Papyri</i> (1899), p. 113.	Parchment	2nd
<i>Genesis ii, iii</i> , Pap. Oxy. 1007.	Parchment	3rd
<i>Genesis xix, xx, xxiv</i> , Pap. Oxy. 656.	Papyrus	3rd
<i>Δόγμια Ἰησοῦ</i> , Pap. Oxy. 1.	Papyrus	3rd
<i>St. Matthew's Gospel i</i> , Pap. Oxy. 2.	Papyrus	3rd
<i>St. John's Gospel, i, xx</i> , Pap. Oxy. 208.	Papyrus	3rd
<i>New Sayings of Jesus</i> , Pap. Oxy. 654.	Papyrus	3rd
<i>Exodus xxxi, xxxii</i> , Pap. Oxy. 1074.	Papyrus	3rd
<i>Philo</i> , Pap. Oxy. 1173 and 1356.	Papyrus	3rd
<i>Theogonia</i> (Hesiod), Pap. Oxy. 873.	Papyrus	3rd
<i>Contra Aristocratem</i> (Demosthenes), Pap. Oxy. 459.	Papyrus	3rd
Pap. Oxy. 470.	Papyrus	3rd
<i>Early Christian Fragment</i> , Pap. Oxy. 210.	Papyrus	3rd
Pap. Oxy. 406.	Papyrus	3rd
<i>New Recension of Tobit xii</i> , Pap. Oxy. 1594.	Parchment	3rd
<i>Psalms vii, viii</i> , Pap. Oxy. 1226.	Papyrus	3rd
<i>St. James's Epistle ii, iii</i> , Pap. Oxy. 1171.	Papyrus	3rd
<i>Epistle to the Romans viii</i> , Pap. Oxy. 1355.	Papyrus	3rd

A second example may be given from the Old Testament, though perhaps it may not be urged as a proved case. In *The Message of Hosea*, Melville Scott proposes that the third chapter be viewed as rightfully belonging between verses 9 and 10 of ch. 1. This is quite possible from the point of view of mechanical displacements. The first nine verses of ch. 1 may be regarded as two blocks, the first being about two-thirds the size of the second. There would thus be room for a title. The remainder of ch. 1 and the whole of ch. 2 together amount to five blocks of the size of the block next to the first and of the size of ch. 3.

Again, the final third of the twelfth chapter of the Gospel of John consists of two blocks of text, verses 36b-43 and 44-50, which evidently reverse the order of the original penman. In the latter, Jesus is engaged in making a public address, as the words 'Ἰησοῦς δὲ ἔκραξεν καὶ εἶπεν of verse 44 require, although in the former block, in 36b, He is said to have hidden Himself, καὶ ἀπελθὼν ἐκρύβη ἀπ' αὐτῶν. Moreover, this block forms a proper concluding section to the Public Ministry, which in this Gospel comes to an end at this point. Here again is a misplacement that actually occurred and that actually perpetuated itself. Apparently, it occurred not later than sometime in the life of a common ancestor of all extant evidence for this region of the Johannine text.

An example of a misplacement of a papyrus or parchment section occurred in the immediate or a more remote ancestor of a part of the great New Testament palimpsest known as *Codex Ephraemi Syri Rescriptus* (C). The evidence is in the text of this codex. The block of text extending from a point near the end of ch. 10 of the Book of Revelation to a point not far from the beginning of ch. 11 is omitted and in its place occurs a block of approximately equal size, consisting of the end of ch. 7 and the beginning of ch. 8. The intervening text amounts to just twelve blocks of about the same size as either of these. The limits of the interposed text are indicated by vertical bars in the following:

και κατεφαγον αυτο και ην
 εν τω στοματι μου ως
 μελει γλυκυ και οτε ε|δακρυον
 εκ των οφθαλμων αυτων
 και οταν ηνοιξεν την
 σφραγιδα την εβδομην
 εγενετο σειγη

 και ανεβη ο καπνος των
 θυμιαματων ταις προσευχαις
 των αγιων εκ χειρος του
 αγγελου ενωπιον του θυ|χιλιας
 διακοσιαις εξηκοντα
 περιβεβλημενοι σακκουσ

Rv. 10.10, 7.17-8.4, 11.3.

Here, the interposed block is joined on at a point where an augment from a verb (*εφαγον*, 10.10) converts a noun (*δακρυον*, 7.17) into a verb. This fact that the augment and the noun did make a word may have assisted in preventing discovery of the dislocation of the text. However, both at the earlier and at the later points of transition, where the interposed block is fitted into the gap, we have simple nonsense. Nevertheless, the misplacement occurred. Further, it was copied and allowed at least once.

That this misplacement was an accidental one, due to a shift in a piece of parchment or papyrus, is sufficiently indicated by the following facts:⁴

Number of words omitted	79
Number of words interposed	85
Number of words in intervening text	1,000

It may readily be determined that the intervening text amounted to just enough to make 12 blocks. The manuscript in which the misplacement originated was either a codex or a roll, more probably a codex, the blocks of text

⁴The number of words interposed has been determined from the published text of C. As C does not contain the omitted text and only a portion of the intervening text, the numbers of words have been counted in Westcott & Hort's recension of the Greek N. T.

on whose leaves or column portions of papyrus or parchment consisted on the average of about 83½ words.⁵

We may learn from this occurrence that an interchange of distant columns or leaves could occur in an old manuscript and that this displacement might survive copying. Just how old the ancestor of C was is not known. C itself belongs, say, to the third quarter of the fifth century; so that the ancestor might be of any age back to the autograph.

I am able to cite another example of a manuscript which suffered physical misplacements. This is a Peshitta New Testament codex dating apparently from about the year 1203 A. D. Some years ago, this book was in the possession of a student at the University of Chicago. In E. C. Mitchell's *Critical Handbook of the Greek New Testament*, p. 236, the following statement is made on the authority of I. H. Hall:

"The following leaves are misplaced: John xii. 48-xiii.10 is misplaced after xv.6; John xvi.33-xviii.1 is misplaced after xviii.38; Acts xix.20-39 is misplaced after xx.18; Gal. iii.10-19 is misplaced after 1 Pet. v.3."

The book seems still to be in private hands. This is to be understood as sufficient explanation of the fact that I am unable to indicate the breaks more precisely than the preceding statement defines them. However, we shall not be far wrong if in John we place them all between verses. The following tabular statement will indicate the breaks and the intervening textual amounts. The order is that of the manuscript. The determinations of the numbers of words have been made from the Greek text of Westcott & Hort, bracketed words being omitted.

John.	No. of words.	No. of leaves.
13.11-15.6	1144	5
12.48-13.10	257	1
15.7 -16.32	933	4
18.2 -18.38	724	3
16.33-18.1	540	2

⁵F. J. A. Hort was perhaps the first to discern a misplacement in an ancestral text of C. See *Introduction (The New Testament in the Original Greek)*, p. 268.

After the initial break at the end of 12.47, there followed five breaks in the course of 15 leaves. My theory as to Mark assumes that eleven breaks occurred in the course of 30 leaves or columns. So then the frequency of actual interruptions of the narratives of Mark and of this Peshitta manuscript is nearly the same, measuring the intervals between such interruptions by the textual blocks, or units, of the respective manuscripts.

From the examples of the ancestor of that part of C devoted to the Apocalypse and of the Peshitta codex dating apparently from the beginning of the thirteenth century, we see that physical misplacements have actually occurred. And the former example shows that it was possible for the misplacement to perpetuate itself in spite of the fact that nonsense was made of the text.

VARIATION IN TEXTUAL AMOUNT IN BLOCK

The minimum and maximum sizes of textual blocks that it is necessary to assume in connection with the first third of Mark amount to 101.3 and 129 words, respectively. There is here a variation of 27.3 per cent., in passing from the smaller to the larger amount. Undoubtedly this is a very considerable variation and implies that the manuscript was written by one unpractised in the inscribing of books or else by one having himself a purpose to begin incidents at the heads of textual blocks or falling in with the form of an exemplar written with such an object in view. If purpose may be assumed, there is nothing unreasonable in the variation required by the hypothesis as to Mark. If, however, it be assumed that lack of skill is the explanation that would have to be set up, then there should perhaps be examples of other unskilfully written manuscripts disclosing comparable variations. At the same time, it should be remembered that, while there are now extant very many remains of literary works of the early centuries, only some of these come from inexpert hands and that a very large proportion of them consist of such fragments that the remnants of text do not permit the amounts of a number of columns, pages or leaves to be compared.

Papyrus Rylands 53 is, however, a considerable fragment from a vellum codex of the third or fourth Christian century. Folio 97 contains on its two pages 69 lines of text and folio 99, 56 lines. This reveals a variation, from the lesser number of lines to the greater, amounting to 23.2 per cent.

Papyrus Rylands 28 is a part of what was once a papyrus codex and dates from the fourth Christian century. On the two sides of folio 1 is a total of 559 letters, and of folio 4, of 372 letters. The variation here from the smaller leaf amount to the larger is 50.3 per cent. Attending to page amounts further on in the papyrus, one finds that the *verso* of folio 6 has 238 words, and the *verso* of folio 8, 170 words. The change in passing from the smaller page to the larger is just 40 per cent.

Of the literary compositions found at Oxyrhynchus, 1380 and 1381 are written on the *recto* and *verso*, respectively, of one and the same papyrus roll. Both are assigned to the second Christian century, though the one on the *recto* is naturally to be viewed as the older. The scribe of this composition, *Invocation of Isis*, had the advantage that the fibrous surface furnished him with the equivalent of rulings. Nevertheless, in the course of the total of 12 columns, extremes of 22 and 28 are to be noted in the number of lines in a column. It is column 3 which contains 22 lines and columns 10 and 11 which contain 28. In passing through eight columns, therefore, one encounters both minimum and maximum. No. 1381, *Praise of Imouthes-Asclepius*, despite the fact that it is inscribed on the *verso* where the fibres are perpendicular to the line of writing, has its columns very regular in respect to the number of lines, the variation being from 22 to 23. Returning now to the *recto* side, we note that the variation from 22 to 28 is a very considerable one. It means, considered alone, a change of column amount from the smaller to the larger of 27 per cent. This is a close approach to the variation of 27.3 per cent. required for Mark. Such changes in the number of lines of a column or other textual block may be due to an increased closeness of the lines of writing. Such increased closeness may

very well be associated with a reduction in the height and breadth of the letters. Consequently, in such cases, the fact that the number of lines in the block had increased 27 per cent. would mean that the textual amount had increased by a still greater percentage, more letters going to a line.

If the letter size changes from block to block, considerable variations in the textual amounts may result. Let us consider the mathematics for a moment. Assuming that height and breadth change in the same proportion and that the distance between lines likewise varies in the same ratio, a shrinkage in the size of the letter sufficient to bring about a k per cent. increase in the number of lines in the textual block would mean an increase of k per cent. also in the number of letters in a line. Let m be the original number of lines and n the original number of letters in a line. Then mn would be the total number of letters in the original block. After the shrinkage of the letter size, the new number of lines would be

$$m + \frac{km}{100}$$

and the new number of letters in a line,

$$n + \frac{kn}{100}$$

Consequently, the new block would contain the number of letters indicated by the number resulting from the product of these expressions; and the increase would be found by subtracting mn from this product:

$$\left(mn + \frac{2kmn}{100} + \frac{k^2mn}{100^2} \right) - mn = \frac{mn}{100} \left(2k + \frac{k^2}{100} \right)$$

This means that a letter shrinkage bringing about an increase in the number of lines in a block, and of letters in a line, amounting to k per cent. would result in an

increase in the total text in the block amounting to the following percentage:

$$2k + \frac{k^2}{100}$$

In order to ascertain the percentage of increase in the number of lines in a block, and in the number of letters in a line, necessary to produce the 27.3 per cent. increase in the block amount of text, we have merely to solve the following equation for k :

$$\frac{k^2}{100} + 2k = 27.3$$

We get— $k = 12.8$

The percentage of the shrinkage in dimension (y) necessary for an expansion percentage in number amounting to k may be ascertained by solving the following equation for y :

$$\frac{100}{100-y} = \frac{100+k}{100}$$

We get— $y = \frac{100k}{100+k}$

Accordingly, when k is 12.8—

$$y = \frac{1280}{100+12.8} = 11.3$$

That is to say, if the letters shrink 11.3 per cent. in height and width and the lines are correspondingly closer together, then the increase in number of lines in a block and of letters in a line will be 12.8 per cent., and the block will contain 27.3 per cent. more text.

This means that a change in textual amount from 101.3 words in a block to 129 may be brought about simply by a decrease in the height and breadth of the letters of only 11.3 per cent. Such a decrease is to be inferred in cases where the number of lines has increased 12.8 per cent. and the average number of letters has also increased in the same proportion, provided the dimensions of the block have remained the same.

In a case where the number of lines changes from 23 to 26, the variation amounts to 13 per cent. This, if brought about by a certain shrinkage in the height of the letters and accompanied by a proportionate shrinkage in the width will be enough to explain the increase in the block amount from 101.3 to 129 words, provided the block dimensions remain unchanged. In the *Invocation of Isis*, there is a much greater change in the number of lines in the block, as there we have a variation from 22 to 28 lines. If we attend to columns 5 and 9, we shall find that the numbers of lines are 23 and 26, respectively; so that the required variation, in so far as the number of lines in a block is concerned, is here accomplished in the course of passing over five columns.

In view of the foregoing examples and the analysis of the effects of a change in the letter size, it would be unreasonable to complain of the extent of the variation required for the blocks of text in Mk. 1.1-6.13.

SMALL BLOCKS OF TEXT.

The average size of the block of text that has to be assumed for the roll or codex of Mark is quite small, being in fact 111.6 words. The question naturally arises whether the columns of rolls or the leaf amounts of codices occurred in such sizes. I give a number of examples none younger than the fourth Christian century.

Reference data.	Character of MS.	Century assigned.	Number of words in textual block.
<i>Invocation of Isis</i> , Pap. Oxy. 1380.	Roll (papyrus)	Early 2nd	Column iv has about 109 words.
<i>In Aristocratem</i> (Demosthenes), Pap. Oxy. 883.	Roll (papyrus)	About 3rd	Column 1 has 107 letters. Col. 2 has something over 111 letters, apparently. Block of text estimated in words from these data has 18 or 19 words.
<i>Titus i, ii</i> , Pap. Rylands 5.	Codex (papyrus)	3rd	<i>Verso</i> of this fragment has about 105 words. Doubling this for the leaf amount, one gets 210 words.
<i>St. James's Epistle i</i> , Pap. Oxy. 1229.	Codex (papyrus)	4th	Page β has about 88 words on it. Doubling this, one gets for the leaf amount 176 words.
Pap. Oxy. 1353.	Codex (vellum)	4th	<i>Recto</i> has 52 words, <i>verso</i> has 57 or 58. Leaf amount equals, therefore, 109 or 110 words.
Pap. Rylands 28.	Codex (papyrus)	4th	Leaf No. 1 contains 559 letters= about 112 words; leaf No. 2 has 512 letters= about 102 words. Average of all eight leaves of the extant quire is 431 letters= about 86 words.
<i>Tobit xii</i> , Pap. Oxy. 1594.	Codex (vellum)	3rd	Estimated amount on leaf=66 words.
<i>6th Ezra, xvi</i> , Pap. Oxy. 1010.	Codex (vellum)	4th	Leaf amount= about 43 or 44 words.
<i>Joshua iv, v</i> , Pap. Oxy. 1168.	Codex (vellum)	About 4th	Estimated amount on leaf=116 words.

Reference data.	Character of MS.	Century assigned.	Number of words in textual block.
An ancestor of the Apocalypse of <i>Codex Ephraemi Syri Rescriptus</i> (C).	Codex or roll*	About 4th*	Block of text replaced contained about 79 words; block interposed contained about 85, and the intervening 12 blocks, about 83½ each.

*The age of the ancestor of the Apocalypse of C is unknown. However, if we assign C to the middle of the fifth century, we shall not put it much too early if we place the ancestor in the fourth century. The block amount we have found to be round 83½ words. As we cannot certainly exclude the roll form, this textual amount of 83½ words may have reference to a column or to a codex leaf amount.

COINCIDENCES AGAINST

There are two classes of coincidences which connect themselves with the theory of mechanical misplacements in the first third of the Markan text. These classes oppose each other and so tend in the direction of the elimination of coincidence from the list of considerations that must weigh in a balancing of *pro* and *con*. However, in the end it will be found that the one class overbalances the other, so that there is a residual group, left after mutual neutralization, which affords the basis of a probability favoring one of the two alternatives—the acceptance and the rejection of the theory which we have been considering.

The theory requires that physical discontinuities in the writing material shall coincide with certain fairly numerous points in the text, points where one incident ends and the next begins. The physical discontinuities are required, because actual shiftings of sections of the narrative are assumed. These must not carry with them fragments of text obviously belonging to other sections. For example, section D has a very definite beginning and a very definite end. Assuming that it once stood between F and G and was afterwards shifted to its present position between C and E, it would not do to allow that

it carried with it fragmentary portions evidently belonging to F and G. A similar remark applies, if we assume that D originally stood between C and E, and was later displaced to a position between F and G. The physical interruptions in the continuity of the writing material must, in fact, coincide with the interruptions in sense caused by passing from one incident to the next. Occasionally, a little latitude of choice is permissible and a small amount of text may be put with the preceding incident or attached to the following.

It may be gathered from the foregoing that a formidable amount of coincidence is required if one wishes to accept the theory. It will be well, however, not to have an exaggerated view of the difficulty thus created.

Thus, we are not compelled to think of the eleven sections of text, in the manuscript which suffered derangement, as each ending not merely a page, leaf or column but a line as well. This would be an onerous requirement, as the writing might naturally come to an end anywhere along the line. It is not necessary, however, to take so extreme a view. In a very early papyrus classic, the *Persae* of Timotheus, the mark known as the *paragraphus* designates divisions between paragraphs. The whole of one precedes the mark and the whole of the other follows. The new paragraph begins a new line. This papyrus dates from the fourth pre-Christian century.⁶ It is quite true that this mode of using the *paragraphus* did not remain unchanged during the passing centuries as there are indications that in the fifth Christian century its significance was being lost. However, there is evidence tending to show that the ancient use was still persisting in the second and third centuries A. D. In Pap. Oxy. 465, assigned to the second rather than the third Christian century, the mark is used to separate the preceding text, ending with a single word at the beginning of line 158, from the text beginning with line 159. This occurrence is in col. V of the remnants of a prose work constituting an *Astrological Calendar* and originally written on the *verso* of a papyrus roll. Again, the mark is employed five times in

⁶E. M. Thompson, *op. cit.*, p. 58, n. 3.

Pap. Oxy. 665, which is made up of fragments of a single column of a papyrus roll dating from the second century A. D. This is a literary text inscribed by an expert writer, and when complete constituted what was probably a *History of Sicily*. The residual text indicates that it was a summary of events in which the various items were concisely stated and marked off by *paragraphi*. Of the five instances shown by the published text, one occurs at a point where the preceding text ends with the latter half of a word standing at the head of the 7th line. The next item begins with the 8th line, which is in fact protruded into the margin. In the remaining instances of the use of the mark, three occur at points where the preceding text finished with the line, and one at a place where the preceding line is wanting in the printed text.

It will not be inappropriate to mention here two old instances of the use of form to mark off a change of sense. Pap. Oxy. 7, *Sappho*, dates from the third Christian century. There are several fragments which are thought to have been parts of a single sheet. The stanzas of the composition are set off from one another by the fact that one stanza concludes on one line and the next begins with a new one. Pap. Oxy. 135 is a vellum leaf dating from the early part of the fourth Christian century on which is text of a Greek version of the Psalms. At the transition from verse 9 to verse 10 in *Ps.* 82 (83), $\Lambda\omega\tau$ ends the one section, even though it stands alone at the beginning of a line. The mark *paragraphus* is placed under this word and $\delta\iota\psi\alpha\lambda\mu\alpha$ is given a line to itself. Then, beginning with a new line, the text flows on. The word $\delta\iota\psi\alpha\lambda\mu\alpha$ is placed like a modern subheading, well over in the line. The two parts of the text are quite distinctly separated.

In view of the foregoing instances, especially those involving the use of the *paragraphus*, it is certainly permissible to hold that, in the intermediate century that ended with 100 A. D., autographs and copies of compositions like the Gospel of Mark in which one incident rapidly follows another might well have been written in paragraphs which began with new lines.

The theory of mechanical misplacements requires inter-

ruptions of the writing material coincident with, say, eleven points of transition from one incident to the next; but this is not to be interpreted to mean that all the physical interruptions that occurred took place at the points needed to effect the misplacements.

I have divided the text into thirty blocks; and it may very well have been the case that there were quite as many physical interruptions of the papyrus or parchment. In order to satisfy the requirements of the theory, quite a number, say eleven, of these must occur at points where the text following begins a new incident. In view of the facts and probabilities as to the use of the *paragraphus*, we may assume without excessive difficulty that there should be as many as eleven; but, in case there were no more, it would accentuate the difficulty greatly, if all there were had to occur at the ends of the several sections $k+A$, $m+B$, C , etc. It is to the point then that I show that there may very well have been more than eleven instances where physical discontinuities agreed with paragraphed interruptions in the text. The data necessary to understand how the matter stands may be given in tabular form as shown below.

It may now be seen that there may have been as many as 16 (11+5) instances where physical discontinuities in the writing material occurred at points where new incidents begin. Thus section $k+A$ may have been physically divided between verses 13 and 14 of ch. 1. This would

Section.	Sub-sections. Mark.	Number of words in sub-sections.	Number of words in each block.
$k+A$	1.1-13	207	103.5
	14-20	115	116
D	2.1-17	300	100*
	18-22	122	122
E_1	2.23-3.6	101	101*
	3.7-12	103	103
E_2	3.21-35	232	116
	4.1-34	565	113
F	4.35-41	118	118
	5.1-21	324	108

*As the minimum block size employed in developing the theory is 101.3, the averages 100 and 101 are slightly below the minimum.

have had the effect of interrupting the text at the point of transition from *The Temptation* to *Summoning of certain disciples*. The latter incident would then have occupied a block of text of 115 words all to itself. The other three incidents of the section would have occupied two blocks. If the title (Κατὰ Μάρκον) of the book occupied a separate page, leaf or column, then the average size of block for these incidents would have been 103.5 words. But, if the title belonged to the same textual block as the opening statements of the book, then block 1 might have absorbed about 92 words of the narrative and block 2, about 115.

From what has now been set forth, it may be seen that not only the eleven but five additional physical discontinuities may have occurred at points where incidents end and begin. There may, then, have been as many as sixteen physical discontinuities in the writing material at paragraphal interruptions, though only eleven of these are required to explain the facts.

The matter stands thus: There are twenty-four incidents which are recorded in the course of thirty blocks of text. Eleven selected incidents are desired to begin in agreement with textual blocks. This means eleven coincidences.

COINCIDENCES FOR

However, rejection of the theory of mechanical displacements would not enable one to escape coincidence. The foregoing class of coincidences, formidable as it is in the aggregate, is opposed by another class, which is also formidable in the aggregate. That is to say, if the theory be rejected and the eleven coincidences thereby escaped, another class will be created by the very situation brought about by the rejection. In short, we are really face to face with a dilemma. Acceptance of the theory precipitates one class of coincidences, rejection precipitates an alternative class.

In fact, the class of coincidences imposed upon us in consequence of rejection of the theory is a double one, consisting of two groups based upon independent considerations.

Even though we reject the theory, we still have the

Markan text and the Matthaean text. The relationship of the two is just the same. There are still eleven sections of Markan text whose rearrangement may be made to disclose the Matthaean order of events. The combinations of incidents in the eleven sections are precisely the same as before; and the amounts of text devoted to each and every incident and each and every section are exactly what they were.

It is important to see that both the combinations and the text-amounts are special—so much so, in fact, that (1) with the sections made up of the present incidents, the incident-amounts might easily have been such that the totals for sections would have made the theory impossible of application; and (2) with the incident-amounts what they are now, the membership of the sections might very well have been such that the totals for them would have created a situation impossible for the theory. But it is a fact that the theory is applicable to the Markan text, so that the consideration that in the one case the improper incident-amounts were avoided leads to a series of coincidences; and so that the consideration that in the second case the unsuitable groupings of incidents did not occur requires a second series of coincidences.

With the groupings as they are now, but with changes permissible in sections C, Q, H and I, the theory might easily become inapplicable. The incident-amounts are such that the section totals are 110, 109, 126 and 106 words, respectively. These are all single blocks—none is smaller than 101.3 words, none greater than 129. The composition was so handled that in no case was the unsuitable region lying in between the limits 1 and 101.3 trespassed upon, nor the equally unsuitable region lying between 129 and 202.6. In the case of these sections, four coincidences are required by the rejection of the theory.

Then there is section $m+B$, consisting of 258 words. A coincidence is required here because the incident-amounts were so managed that the total of 258 words does not fall in any unsuitable region, particularly the one inside 258-304.

Sections E₁ and G, consisting of 304 and 353 words, respectively, both avoid the unsuitable regions within 258-304 and 387-405.3. Here we have two coincidences required, one for each section.

Sections D and F consist respectively of 422 and 442 words, and thus avoid the region inside of 387-405.3. These cases of avoidance require two more coincidences.

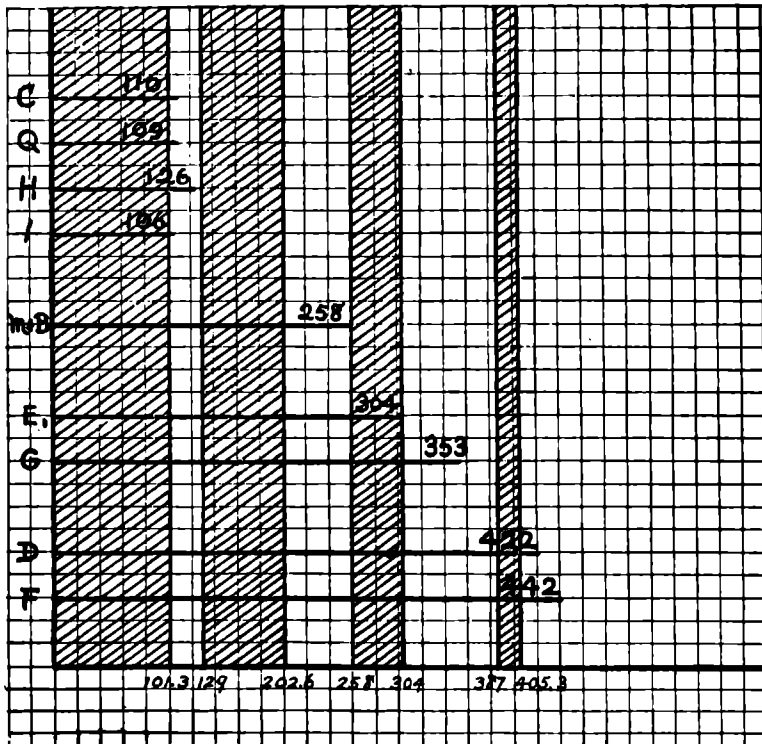
Accordingly, coincidences to the number of nine have now been disclosed. All are based on the necessity to avoid incident-amounts such that with the present groupings would bring about totals of text that are irreconcilable with the theory of mechanical misplacements. The required avoidance is made in each and everyone of the nine cases.

The second series of coincidences arises when we attend only to the results of varying the groupings, the incident-amounts being left as they are. It is of much greater length than the preceding one.

Consider the following tabulation:

Incident.	Incident-amount. Words.	Place in Mark.	Section to which in- cident belongs.
The Baptism.	52	1.9-11	k + A
The Temptation.	30	1.12-13	
Curing of Simon's mother-in-law.	44	1.29-31	m + B
Healing and delivering of many.	92	1.32-38	
Preaching in many places.	15	1.39	C
Touching the leper.	95	1.40-45	
The paralytic.	192	2.1-12	D
The man with the with- ered hand.	94	3.1-6	E ₁
The kingdom divided against itself.	153	3.21-30	E ₂
Visit of mother and brethren.	79	3.31-35	

Here we have ten incidents, none of which is, by itself, of a size to form a suitable section. Eight are too small,



Nine heavy horizontal lines represent lengths of textual sections (C, Q, etc.). The dark spaces are regions of avoidance. None of the nine lines must terminate inside such a region. From one light vertical to the next is assumed to be an interval representing 20 words. The numbers at the right hand ends of the nine heavy horizontals indicate the numbers of words in the sections. The numbers along the lower part of the diagram indicate positions of the limiting verticals of the dark spaces, as determined by the numbers of words in the maximum and minimum block sizes.

The net number of coincidences realized is perhaps something less than 9, as it is necessary to fix the number of textual blocks. After the average size is thus determined, the maximum and minimum will fix the scheme of dark spaces which the terminal of each and every horizontal line must avoid entering. After deducting from 9 the inconsiderable cost of fixing the number of blocks, the remainder will be the net number of coincidences actually realized. Disregarding any reduction, we have 9 coincidences satisfied by the textual sections denoted by C, Q, H, I, m+B, E₁, G, D and F. Each and all have a length such that the horizontal line terminates, not inside the dark spaces but within the limits of the white.

Two are each too large for a section of one block and too small for a section of two blocks. Ten coincidences are required here, if one rejects the theory. But, it is particularly to be noted that the ten coincidences are required even though we limit ourselves to the condition that no one of the incidents shall stand alone. If we go into combinations, we may formulate another and longer series without including more incidents than are listed in the tabulation. Thus, 52+30, 52+44, 52+92, 52+15, 52+95, 52+94, 30+44, 30+15, 30+153, 44+92, 44+15, 44+95, 44+94, 44+153, 92+95, 92+192, 92+94, 92+153, 92+79, 15+153, 15+79, 95+192, 95+94, 95+79, 192+94, 192+79, and 94+79 are twenty-seven binary combinations formed from the ten incidents listed. Each and everyone is a grouping that would have defeated the theory. We have not gone outside the ten incidents, although there are twenty-four in all. Moreover, ternary and higher combinations have not been considered. Enough has perhaps been indicated, however, to make it clear that the number of unsuitable groupings is quite large. The occurrence of any one of them would have made the present reconciliation of the order of events in Matthew and Mark impossible.

IN CONCLUSION

Apparently, it is possible to maintain any one of five explanations for the disagreement between the two Gospels in respect to the order of parallel events in Mt. 3.1-13.58 and Mk. 1.1-6.13. Similar explanations may also be maintained for the minor disagreement in order in the textual regions Mt. 21.10-22 and Mk. 11.11-26. With regard to this latter, the series of explanations is to be so broadened as to include the simple reversal of a single leaf inscribed on both sides.

The explanations seem to conform to what is known as to rolls and codices in the first Christian century; or, when the point involves something unknown, to the probabilities surrounding the matter. If the point concerns the inscription of loose sheets that are afterwards to be gummed or sewed together into a roll or looped together

into a tabular codex, the probabilities are with us. If a question is raised as to whether tabular and folded-leaf codices were in existence at so early a date, again we have the probabilities on our side. If it is a matter of the small size of the textual block or the considerable variation of the block size, there are concrete examples to reassure us. If the point is raised that the ancients seemed anxious to save space and so began new paragraphs on the same line as that containing the ending of the old, we again have the reassurance of actual examples proving that other systems were also in use. And, if it seems a good deal to ask that interruptions in the continuity shall occur at eleven selected points where the text passes from one incident to another, then an examination into the matter shows that the coincidences thus desired are counterbalanced or more than counterbalanced by a cloud of coincidences that would be brought into existence by the rejection of the theory of the mechanical derangement of the text of Mark.