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Codex Sinaiticus Revisited

A.Q.Morton

The Codex Sinaiticus contains the only complete New Testament ante-dating the Nicean councils. The codex has two books not admitted in the canon and shows evidence of changes made to make other books acceptable for inclusion in the canon.

INTRODUCTION

Forty years having passed since the production of a monograph, *Contributions to the Statistical Study of the Codex Sinaiticus*, Christian Tindall, Oliver and Boyd Edinburgh, 1961, it seems appropriate to look again at some questions raised by that study.

Tindall graduated from Corpus Christ in Oxford hoping to become an archaeologist but had to enter the Indian Civil service. After 25 years of service there, ended prematurely by ill health, he retired to Devon and resumed his studies, among them the codices of the Bible, particularly the Codex Sinaiticus. He obtained an exact replica of the codex and made an intensive examination of it. He left, among his papers, notes he had made on the Sinaiticus and the monograph sought to introduce scholars to his methods and inspire them to continue his explorations.

Tindall's initial assumption was that the New Testament had been created in three stages. First, the individual books had been written, or compiled, then some of the books had been grouped, the gospels, the letters of Paul; and finally 27 had become the approved selection, the New Testament familiar to us. Each stage in this progression raises questions for scholars; how had books been created and preserved; when had they been gathered and on what principles, how had 27 been chosen and others excluded.

A key date in the history of The New Testament is 331 when the emperor Constantine ordered fifty bibles. Not only did this imply scriptoria able to produce on such a scale, it must have been agreed

what the volumes would contain. The Sinaiticus must ante-date this order. It contains two texts, the epistle of Barnabas and the Shepherd of Hermas which were to be excluded from the canon. There is no record of any formal decision about the contents of The New Testament. In 325 the council of Niceaea spent many days discussing the creed but when the question came up of fixing the canon of The New Testament, the assembled bishops, as Papias recounts in his Synodicon, were unable to reach agreement and “put the disputed books under the communion table of a church nearby, and prayed the Lord that those which were inspired might rise up on the table while the others remained underneath. And it happened accordingly.”

Attempts have been made to date the Sinaiticus by calligraphy, but the first examination by Tischendorf and Lake identified nine hands in the text. The expert committee who produced *Scribes and Correctors of the Codex Sinaiticus* consequent on its arrival in the British Museum reduced this to three and concluded the codex was unique and unlikely to have come from a scriptorium. Dating by calligraphy depends on having a sequence of comparable examples into which an unknown specimen can be placed. For the Sinaiticus no such sequence exists.

Tindall advanced three arguments for the Sinaiticus being much earlier than the other great Codex, the Vaticanus. Not only did it have the two books later excluded, he argued that in the Sinaiticus Mark had stood first among the gospels. For this conclusion he gave two reasons. One was the lettering. The calligraphy in Mark is good but slackens as the codex continues. With the books in order of Mark, Matthew, Luke, the sequence is smooth; the present position of Mark is anomalous. The other was a progressive narrowing of the pages, due he thought to using each sheet as a template for the next, which again is regular only when Mark is moved up into pole position. For neither of these conclusions did he adduce any evidence and they may well have been hypotheses which Tindall planned to investigate rather than the results which his notes seem to indicate.

His third argument he developed in a simple form. The Sinaiticus is based on a text which antedates the version which was to become

accepted. He assumed that some features of the manuscript showed insertions and excisions had been made, changes larger than the differences to be expected in the course of simply copying a manuscript. Tindall started from a reasonable assumption that writing is subject to natural variations and would have a predictable pattern. Most columns will contain a number of letters near to the average number for all columns. Departures from the average will be as likely to result in fewer letters as in more letters. Large differences will be rare and rapidly become much rarer as the difference from the average increases. He claimed that the outcome was a Normal Distribution, a pattern which enables differences to be classed as likely to be due to chance variation, or so unlikely to arise from natural variation that some alternative explanation is required. He states his conclusions, "experiments here and elsewhere indicate that changes can be represented by a normal curve of standard deviation near to 3%." This led him to believe that "columns containing 625-640 letters were due to scribal variations, columns with 641-675 were due to some other cause and columns of over 675 were almost certainly due to some other cause." He went on to identify a number of passages in the text which he supposed had been added to the exemplar of the Sinaiticus, indicating an origin before the final text of the books had been agreed.

FROM THE BEGINNING

The first question which arises is one Tindall never framed -Why squeeze large blocks into a text? If you are writing a manuscript which has 13 letters per line and 48 lines per column and want to add 260 letters, why not simply write another 20 lines in the normal way? He supplied the answer in a different context. He describes the creation of the manuscript; a pattern was laid on a prepared skin, the skin was cut to size, two vertical lines were ruled down the centre of each of the two pages created on each skin, 48 lines were marked out using these two vertical guides. So a skin provided two pages, 8 columns on each side, 16 columns when both sides are counted. More than one single skin might be folded together, like pages in a modern newspaper, to make a quire. More than five sheets in a quire is unlikely, 80 columns are not much less than the text of Mark's gospel.

In copying a manuscript of this size, different quires would be given to different scribes and so it is essential that a scribe does not extend his text past the boundary set by the quire divisions. These divisions probably played a part in finding places in a text. Before the chapter and verse markings were added by the Swiss printer Stephanus, the only guide to places in the gospels were the Eusebian canons, a cross reference system which was far from simple to use. But the knowledge of what text could be found in which quire would be a great help in examining a manuscript.

So adding matter to a text would require insertion. "To detect and delimit insertions two things are needed, first a definition of an abnormal number of letters in any column, and second a comparative expected number of letters which will enable an estimate to be made of the size of the intrusion." Tindall assumed that the average number of letters in the columns of the whole work under examination would provide the base line and the fact that variations in writing fitted a normal distribution centred on the overall average marked the limits of natural variation and indicated which differences were so large that some other explanation for them was required.

Tindall's first assumption is wrong. The columns of the Sinaiticus do not exhibit one series of observations but three. In the centre there may well be variations in writing much as he described. But at both ends of the spectrum we do not have extreme values of variation in handwriting but quite different kinds of observations. Most columns with low numbers of letters are the result of a convention that left part of a line blank after the end of a paragraph or wrote a list of virtues, or vices, as a single word on each line; or some similar feature. These are not the result of natural variations in handwriting, they are the product of a formatting convention. Similarly, columns with excessively large numbers of letters are not the result of a natural variation; they are brought about, as Tindall argues, by the insertion of new material.

So including the whole pattern of letters per column is to combine three different sources for the observations. There will be a central section which may well reflect the natural chance variations in handwriting, there will be a negative tail made up of columns with

more than average numbers of lines truncated for one reason or another, and a positive tail which does indicate intrusions

A STARTING POINT

Tindall first assumed that the average number of letters per column in the whole book, such as a gospel, was a good point from which to calculate the boundaries. Some of his later examples show that this was not a tenable assumption and he used a local average, based on a few columns adjacent to the anomalous column under examination. A more modern technique can be used to split the sequence of columns into consistent groups and the local average can be derived from these. First the pattern of columns in all four gospels and Acts needs to be looked at, this is shown in Table One.

In the table, the mean is the number of letters in all completed columns divided by the number of such columns. The median, the central value above which, and below which, half the observations lie, is calculated from the table having a cell interval of 10 letters. The range is the difference between the largest and smallest columns. A comparison of the mean and the median indicates how symmetrical the pattern is, for a single peak with similar patterns above and below, the mean and median would coincide.

It is not surprising to find Luke and Acts similar though the gospel ranges further than its companion; Mark and John are not dissimilar; Matthew, with multiple peaks differs from the others. A column with over 720 letters is clearly anomalous, having perhaps 100 letters more than the local average, but the same might be true of a column with only 660 letters. For valid comparisons, it is essential to use local averages.

Table One

No of Letters In column	Number of such columns in:				
	Matthew	Mark	Luke	Acts	John
551-560	1	1	-		1
561-570	12	2	1	1	1
571-580	12	1	1	-	6
581-590	20	-	4	1	2
591-600	15	6	15	7	8
601-610	28	7	13	3	22
611-620	22	12	26	15	20
621-630	7	20	24	23	20
631-640	12	16	23	24	14
641-650	13	8	18	24	10
651-660	3	4	11	27	1
661-670	3	3	3	13	2
671-680	1	2	5	5	
681-690		1	3	3	
691-700		-	1		
701-710		1	-		
711-720			-		

721-730			1		
Totals	139	85	149	146	107
Mean	618.8	626.9	629.6	639.0	625.9
Median	607.0	626.8	626.9	639.6	616.8
Range	115	145	163	117	110

The book contains an error, page 29 column 2 should read 637, not 37.

MATTHEW.

Table Two

Column Numbers	No of cols. in sequence	No of letters in sequence	Average no of letters per col.
1-7	7	4358	623
8-28	21	12554	598
24-31	3	1938	646
32-50	19	11729	617
51-58	8	4744	593
59-69	11	6813	619
70-80	11	7129	648
81-99	19	11531	607
100-102	3	1974	658

103-109	7	4299	614
110-118	9	5856	651
119-124	6	3636	606
125-128	4	2635	659
129-139	11	6810	619

In the Sinaiticus, Matthew fills 139 columns and has in a final column only three letters. The 139 columns contain 86006 letters, 619 letters per average column. The Sinaiticus contains 3960 letters fewer than the modern text of Alan. Black, Metzger and Wikgren. This does not imply a passage of this size has been omitted, the Sinaiticus has many contractions, the names of Jesus and God are always contracted and some others are irregularly abbreviated.

In Matthew, Tindall's primary assumption does not hold. A count of all the columns, using his figures, does not result in a Normal Distribution. Rather than the single-peaked pattern, the familiar bell-shape, it shows three peaks, a head and two shoulders. Any simple rule based on the Normal Distribution could be misleading.

Another complication which he mentions but then ignores, is that the writing gets smaller as the codex proceeds and the number of letters per column rises. So a count of 640 letters near the beginning of the text is not comparable with the same number near the end. In Matthew, columns 1 - 69 average 610.7 letters per column, columns 70 - 139, 626.7 letters per column.

The Sinaiticus was written with no spaces between words or sentences, but a new paragraph begins on a new line leaving a space averaging half a line, 6 or 7 letters wide, at each paragraph ending. In Matthew the average column has 2 such spaces but some columns have 5, one has 7, creating columns with 20 -35 letters

fewer than the overall average. There are a few instances of truncated lines which are not due to a paragraph ending, notably column 70 in which four successive lines contain only one word of 6 or 7 letters. If a low count is not due to a plenitude of truncated lines, there may be a lower limit as significant as the higher one of 640 letters.

At this point a choice must be made between two extremes, one aimed at picking out the smallest possible insertions, with a high degree of uncertainty in sizing them, the other selecting only insertions large enough to make the uncertainty negligible. Tindall began with a margin of 3% above the local mean as the limit of natural variation in handwriting. So in a column averaging 624 letters, counts up to 642 are most likely due to such natural variation. Under the impression that this was also one standard deviation of a normal distribution, he went on to assume that as much again, another 3%, up to 660 letters, was a twilight zone. At the bottom, near 642 letters, the primary cause would be natural variation, but at the top it was less likely to be an acceptable explanation. He assumed counts above 675 letters must be due to other causes than variations in handwriting.

That the range of chance variation in the writing of the Sinaiticus is 3% above and below the average seems reasonable, not because it is one standard deviation of anything but because the negative variations only exceed 3% when the number of truncated lines is more than the average number of such lines. Variations above and below the average are generally symmetrical when anomalous counts due to a surplus of truncated lines or an insertion are excluded.

So it is a reasonable assumption that counts no more than 3% above the local average are due to handwriting variations, for them no other explanation is required. This does not mean there are no insertions in the text of less than 3% of the local average, it only means that this technique cannot deal with them in a simple manner.

An inspection of the Sinaiticus shows some columns are far above the local average and, with contiguous columns, suggest insertions not of a word or two but some sentences. This is not the product of

correcting a manuscript, it is revision. If therefore attention is concentrated, at this stage, on counts of, say, 70 letters, or more, above the local average, the uncertainty due to handwriting variation becomes much less significant.

In Matthew the first major anomaly lies in columns 29 –31 which contain 1938 letters. The estimated size of the intrusion depends on which average is used in comparisons. Tindall selected some columns before and some after and arrived at an average of 620 letters per column. A more likely average is taken from the following sequence, 19 columns averaging 617 letters per column. An insertion, like a ship, leaves more disturbance after it than before it. This suggests the three columns could be expected to have 1851 letters and the addition to be 87 letters. Verse 13 of chapter 8 has 86 letters in it, and is a better conclusion than the parallel, Luke 7.10

The second sequence to house an anomaly is columns 70 -80 within which columns 73 -77 contain 3314 letters and average 663 letters per column, 3 out of the 5 columns lie above the 3% limit, the 2 others, 2 letters below it. Compared with the average of 617, derived from the previous long sequence, the additional material would run to 229 letters. It is here that Tindall suggests his major find, the enlargement in 16.18 -19, which runs to 229 letters in the printed text and is a precise match. Tindall makes the telling observation that the passage is based on the Markan narrative but exceeds it by 229 letters.

The next sequence of interest is in the three columns 100 -102 They contain 1974 letters and the adjoining sequences have an average of 614 letters per column. This suggests the 3 columns should have 1842 letters rather than the 1974 they do contain. The difference is 132 letters and 22.13 has in it 131.

The final anomaly lies in columns 125 -128. which contain 2635 letters against and expected 2476 derived from the following sequence which has an average of 619 letters per column. Column 128 is the likeliest location and in it verses 65 and 66 of chapter 26 contain 155 letters compared to the forecast 159. The high priest rending his garments is a vivid but imaginative detail..

Tindall locates some other passages in Matthew but does so by changing to counts of letters per page. This is not justified unless the pattern of all the pages has been recorded and examined. The page count in Matthew shows that the gospel is written with an increasing number of letters per page as it progresses. The first 17 pages average 2441 letters, pages 18-34 average 2511. The difference of 70 letters per page is critical, the only anomalous pages are page 8, 122 letters above the local average, page 19, 149 letters, page 29, 115 letters, and page 32, 124 letters more than the local average. All these were detected by the column count. Tindall added others by using an unrepresentative average from the first half of the text, had he used a later estimate with about 70 letters more they would not have been classed as major insertions.

The difficulties which arise with minor anomalies can be seen in two examples. Columns 1-7 make up the first sequence in Matthew. They contain 4358 letters, an average of 622.5 letters per column and range from a high of 647 to a low of 599 letters. This range of 48 letters is 7.7% of the average, more than Tindall suggested as the limit of natural variation. One column, column 5, lies above the 3% limit and when it is excluded, the remaining six columns contain 3711 letters, average 618.5, a range of 37 letters, 6.0% of the average and no column lies more than 3% below the average. Column 4 now lies precisely on the upper limit of 3%, and when it is excluded, the sequence then has 5 columns containing 3075 letters, average 615 letters and a range of 16 letters well below the 6% natural boundary.

Assuming columns 4 and 5 should have the same average content as the others, they would contain 1230 letters rather than the 1283 they have, suggesting 53 letters more have been added. In the text 2.12 has 56 letters. It recounts the departure of the wise men consequent on a warning dream, the text goes on to tell of another such dream to Mary and Joseph. Lacking 2.12 a reader may wonder what had become of the wise men and an explanatory note is welcome. But at what stage in the development of the text was it added? Was it already in place in the exemplar from which the Sinaiticus was copied? It adds one letter to each line for just over a column, not a major disturbance in the new codex.

A second instance of the difficulties in dealing with short anomalies comes in the following sequence, columns 8-28, which contain 12,554 letters an average of 597.9 letters per column. The range is from 623 down to 578, 45 letters, 7.5% of the average. Only one column, column 18, 5.29 -36 in the text, lies above the limit. When it is excluded no column lies below the average by more than 3% and column 18 has 25 letters more than the sequence average. The likely addition is the 21 letters in the three Greek words, “ save for the cause of adultery”, The phrase greatly weakens the statement in which it is embedded and would not come naturally from a man who had refused to condemn a woman taken in adultery. But once again the question is, at what stage in the composition of the text was it included? Adding just below half a letter in the 48 lines of a single column, will hardly leave a visible irregularity.

A number of such brief anomalies occur in the gospels but they are really best considered in a different context, as variants in the text rather than editorial insertions.

MARK

In the Sinaiticus the gospel of Mark fill 85 columns, averaging 627 letters per column. The sequence of columns is shown in Table Three

Table Three

Column Numbers	No of cols in sequence	No of letters in sequence	Average no of letters per col.
1-8	8	5062	632.8
9-49	41	25506	622.1
50-80	31	19789	638.4
81-85	5	2927	585.4

A cusum examination suggests no more than four local averages are needed to cover the whole text and few anomalies, columns 3% above the local averages of 652, 642, 657 and 603 letters. The highest count is column 80 with 708 letters, the lowest column 85 with 560. The sequences are shown in Table Three.

Column 80 has 70 letters more than the sequence average, the text is 15.6 -16 and 15.14 has 73 letters. It is inconceivable that a Roman magistrate would express this sentiment in public, but at a later time the supposition would support that the Romans had been innocent of the death of Jesus, it was due to Jewish insistence.

LUKE AND ACTS

Table Four

LUKE

Column Numbers	No of cols. in sequence	No of letters in sequence	Average no of letters per col.
1-6	6	4161	693.5
7-36	30	18975	632.5
37-58	22	13421	610.0
59-67	9	5764	640.4
68-84	17	10447	614.5
85-104	20	12915	645.8
105-113	9	5456	606.2
114-128	15	9863	645.5

129-149	21	12836	611.2
1-149	149	93658	629.58

ACTS

Column Numbers	No of cols. in sequence	No of letters in sequence	Average no of letters per col.
1-11	11	6597	599.7
12-20	9	5645	649.4
21-65	45	28455	633.0
66-146	81	52370	646.5
1-146	146	93297	639.0

Both books contain a number of minor insertions, but there is only one major one, striking not only by its isolation but its size and placing. In Luke the first six columns average 699 letters, just 70 letters more than the average column in the whole book. Within the sequence column 5 has 728 letters and, as Tindall points, out this is the highest count in the thousand columns of the Sinaiticus which have survived. Tindall argues that this page contains 435 letters more than its neighbours, the six columns 380 letters more than would six average columns. It would seem that around 400 letters have been added. Tindall suggests 1.47 -50, 228 letters with 1.51 -55, 281 letters, 509 letters in all. It seems a little large even allowing for contractions. The problem in identifying an intrusion in this chapter is the fragmentary nature of the whole. There is no shortage of candidates.

Acts shows no sign of any comparable insertion and its first sequence is one of 11 columns averaging 600 letters. Acts has 3591 letters in its first 6 columns, Luke 570 letters more. The complete annunciation Luke 1.46 -55 is 549 letters. That there is a major insertion or revision cannot be doubted but the precise passages involved will vary according to theological assumptions

JOHN

The gospel of John fills 108 complete columns and is in 5 sequences.

Table Four

Column Numbers	No of cols. in sequence	No of letters in sequence	Average no of letters per col.
1-18	18	11420	634.4
19-43	25	15287	611.5
44-53	10	6400	640.0
54-90	37	23011	621.9
91-108	18	11472	637.3

No column in the gospel has 70 letters, or more, above the local average of any sequence. The only columns above the 3% limit are no more than 22 letters above it. John has not been extensively revised for inclusion in the Sinaiticus.

A FURTHER APPLICATION

The gospels and Acts are composite works and some of the differences between sequences of columns may reflect the sources from which they were compiled. No such limitation applies to

epistles which are, or should be, compositions, all the text coming from a single source. The epistles are much shorter than the compilations and so there are far fewer columns to be compared as well as rather reduced variations to be expected. The only major revision appears to have been in the opening columns of Romans. The whole epistle fill 53 complete columns at an average of 621 letters per column, columns 1 -5 contain 3924 letters and average 659 letters per column. These figures suggest about 229 letters have been added to the text of Romans in these opening columns, 1.1-2.16. This is hardly surprising, there are texts lacking the address to Rome, and statistical studies from the earliest and simplest, Wake 1948, to the latest and most complex, Morton 1993 have shown the first two chapters to be composite.

OMISSIONS

Tindall must have encountered columns with low letter counts which were clearly due to omissions, some inadvertent and corrected by marginal notes, some passed over without comment. There is a very simple method of locating any such features. All that is needed is to mark in the modern Greek text the ending of every column in the Sinaiticus. The comparison of how many letters in the Sinaiticus have paralleled the advance of the modern text, shows up any discrepancy. Again, the modern text has more letters than the manuscript due to abbreviations being restored, again there are variations due to scribal errors and omissions running up to a word or two. Again, places where there are differences of more than seventy or a hundred letters, only can be due to deliberate omissions.

CONCLUSIONS.

The main aim of textual criticism has been the recovery of the original wording of the books which make up the New Testament. But Tindall has drawn attention to a second, and equally important, stage in the evolution of the New Testament, to the editing, or revision, which produced, sometime around the end of the third century, an approved version of the New Testament and indicated some of the changes deemed necessary to allow certain books to be admitted to the canon. The Sinaiticus alone preserves collected

texts of the gospels antedating the Nicaean conventions. In particular, Tindall isolated three major insertions in the gospel of Matthew: at 8.13, the ending of the story of the healing of the Roman centurion's servant, at 16.18-19, Peter's commission to head the church, and at 26.65-66, Jesus before the high priest. In Mark he detected one such insertion, the assertion of Jesus' innocence by Pilate, 15.14.

It may well be that a study of ecclesiastical politics at the time is at least as significant as the theological debates which shaped the collected books which became the authorised New Testament. It would seem that Rome asserted its pre-eminence by the rehabilitation of Peter by making changes in Matthew, by approving the 21st chapter added to John, by going on to construct an epistle from Pauline material, and by a similar revision of the opening sentences which created a letter from Ignatius addressed to Rome.

Tindall used very simple techniques to open up a new field of study. He showed that the mechanics of book production played a part in the formation of the texts. The author has argued this from another standpoint and has been rebuked for suggesting such a crude constraint had any role to play in the creation of scripture. But Tindall's demonstration that, in places, the boundaries of quires determined the progress of the text is something which must now be acknowledged in New Testament studies. There are some very simple illustrations. If the gospel of Mark, in the Greek text of Aland, Black, Metzger and Wikgren, 55332 letters to 16.8, is divided in quarters, each would contain 13,833 letters. None would end at a point of any significance in the text, such as the ending of a paragraph. However if the count goes to the first paragraph ending past 13,833, it stops at 13,918. Moving on another 13,833 and again carrying on to the end of the paragraph, includes 13,888 more. A third move to the paragraph ending past another 13,833, means a third portion of 13,868 letters. This would suggest Mark was divided into four parts, three of which average 13,890 letters, plus or minus 13 letters, a precision of one part in one thousand and a fourth part having 13,663 letters, 227 letters fewer. Mark, of course, has lost its ending. Could it have been about 227 letters long?

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The Sinaiticus is no longer in the British Museum, it is in the British Library. Photographs come from a separate company, British Museum and Library Reproductions. Their copies are smaller, dearer and not as clear as photo-copies of Tindall's copy of the Tischendorf facsimile obtainable from :-

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