

## **Basic Facts on Producing New Testament Manuscripts**

by

James Arlandson

This article comes second in a four-part series on New Testament textual criticism. It answers questions about the material and process of making the pages of a document, along with the scribal art of writing. What were the scribe's utensils? How was a papyrus sheet or page made? What is parchment? Why wouldn't God protect his Word from such complications? Should I trust the New Testament?

These questions and more are explored in a basic Question and Answer format, for ease of understanding. The article is written by a nonspecialist and is intended for the laity.

This article has three companion pieces. This present one should be read second, after the first article listed here.

1. Preliminary Questions and Answers
2. Basic Facts on Producing New Testament Manuscripts
3. Discovering and Classifying New Testament Manuscripts
4. The Manuscripts Tell the Story: the New Testament Is Reliable

### **1. What is the original language of the New Testament?**

Since the question and answer is so fundamental, I have repeated them in the other parts in this series. It was written in common Greek of the first century, in a vocabulary and sentence structure that most people could understand. This is especially true of the four Gospels. Christianity is a missionary religion, so it had to use the language that everyone knew in the cities in the first century. And that language was Greek. Not much later, as Christianity expanded farther, scribes translated the Greek New Testament into other languages.

### **2. What is a papyrus manuscript, and where does it come from?**

A papyrus manuscript comes from a reed plant. We get our word *paper* from the word *papyrus*. The plural of *papyrus* is *papyri*. Scribes in the ancient Mediterranean world, where Christianity first spread, used it as the material on which to write a variety of documents, ranging from personal letters to notes of legal minutes in a court proceeding. In our case, scribes used it to copy down the New Testament.

Bruce M. Metzger ranks as a top textual critic of the New Testament, and in the fourth edition of his book Bart D. Ehrman joins him. They give a description of the plant from which papyrus manuscripts are made.

Papyrus is an aquatic plant that grows most successfully in the still shallow marshlands (see Job 8:11, “Can papyrus grow where there is no marsh?”). Its broad roots stretch horizontally under the mud, and from this rise several strong stalks, triangular in cross section; short brown leaves protect the base. Papyrus is by far the tallest of the botanical *Cyperus papyrus*, growing to a height of 12 or 15 feet. At its top the stalk splits into a mass of strands (the *umbel*), and at the end of those the plant produces small brown flowers. The stalk of the papyrus plant has a tough green rind that contains an ivory white pith, which carries water and sustenance from the root to the flowering head. (Metzger and Ehrman. p. 4)

The plant produces a natural adhesive as it is pressed together.

Kurt Aland and Barbara Aland, two of the most prominent New Testament textual critics of any generation, tell us where papyrus comes from.

In the early period New Testament texts were written on papyrus, as was all the literature of the time. This writing material was produced primarily (though not exclusively) in Egypt. (Aland and Aland, p. 75)

### **3. How was the reed plant turned into papyrus?**

Aland and Aland say that the plant could grow to a height of six meters (longer than 12 or 15 feet, as stated by Metzger and Ehrman in the previous answer). Then Aland and Aland describe how the papyrus went from a plant to writing material.

Its thick stem was divided into sections and sharp tools were used to cut it lengthwise into wafer-thin strips. These strips were laid side by side to form a single layer with the fibers of the pith running parallel, and on top of it a second layer was placed with the fibers running at right angles to the first. The two layers were then moistened, pressed together, and smoothed down. Finally, any projecting fibers were trimmed off and the papyrus sheet was cut to a desired size. (p. 75)

See this [slide show](#) on how the reed plant was turned into a papyrus sheet.

### **4. What is parchment?**

Parchment is treated animal hide on which scribes wrote their texts, such as the Bible. The term *parchment* comes from the Greek word for the city Pergamum, “which was noted for its fine quality of this product” (Greenlee, p. 11).

### **5. What is vellum?**

This is also made of treated animal hide, calfskin, properly. It had a finer quality than parchment. But the two terms *parchment* and *vellum* are used interchangeably today.

## **6. How was this material turned into sheets for manuscripts?**

The process required careful work.

The hide (theoretically of any animal, but usually of a goat or sheep) first had the hair and flesh removed by a solution of lime mordant, and was then trimmed to size, polished, and smoothed with chalk and pumice stone to prepare the surface for use. (Aland and Aland, p. 76)

## **7. How was the parchment sheet prepared for writing on it?**

The lines had to be drawn on the sheet (the lines were ready-made with a papyrus sheet because the fibers guided the scribe to write in straight lines). Drawing the lines on parchment was done by a metal stylus.

The line was drawn on the hair side, so that it still appears there as a depression and on the flesh side as a slight ridge (guide line for the columns in manuscripts were marked in the same way). The difference between the hair side and the flesh side posed a difficulty with parchment manuscripts, because the one side was darker in color and the other lighter. A conventional solution was found by arranging the four-sheet quire (which became standard) so that the hair side faced the hair side and the flesh side faced the flesh side. (Aland and Aland, p. 77)

## **8. What is a quire?**

It was “four sheets of paper (or papyrus or parchment) folded once and stitched at the fold. Scribes would use several quires to make up an entire codex,” an early form of the book as we know it (Comfort, *Encountering*, pp. 389-390).

## **9. How many animals were needed?**

Many sheep or goats were needed to produce about 200-250 folios or a leaf or a page for a codex manuscript.

One sheep or goat could provide only two folios [a leaf, which when folded, provided four pages, front and back, twice], i.e., only four folios of the finished manuscript, the size of which would be determined by the size of the animals. A manuscript containing a group of New Testament writings in the average format (about 200-250 folios of about 25 x 19 cm) required the hides of at least fifty to sixty sheep or goats. This would mean quite a good size flock. Manuscripts would often need to be larger to accommodate more than a single group of writing, and this would require a greater number of hides. (Aland and Aland, p. 77)

## 10. How expensive was the preparation and copying?

A manuscript of only a part of an original writing could cost a small fortune.

For a large manuscript (Codex Sinaiticus was originally at least 43 x 38 cm in size) or one particularly fine quality of parchment, the expense would have multiplied. In fact, a manuscript of the New Testament represented a small fortune because the preparation of the parchment was only the first step. Once it had been prepared there was still the writing of the text to be done . . . Clearly the manuscript must have been commissioned by persons of the upper classes who could afford to ignore the expense. (Aland and Aland, p. 77)

Often, the church commissioned the codex of parts or the entire New Testament.

Emperor Diocletian (ruled AD 284-305), who persecuted the church terribly, set the wages for scribes copying secular manuscripts:

At the rate of 25 denarii for 100 lines in writing of the first quality and 20 denarii for the same number of lines in writing of the second quality (what the difference was between the two qualities is not mentioned) . . . the cost of producing one complete Bible, such as Codex Sinaiticus, would have come to about 30,000 denarii, a sizeable sum notwithstanding steadily rising inflation. (Metzger and Ehrman, p. 26)

For the four Gospels, these are the wages in round numbers of the Roman denarius:

2,600 for Matthew

1,600 for Mark

2,800 for Luke

2,300 for John

The following precise figures are found in several ancient manuscripts of the four Gospels, respectively: 2,560, 1,616, 2,750, and 2,024 (Metzger and Ehrman, p. 26)

The Roman denarius was the standard currency in the empire, and an average worker, agricultural or urban, earned one per day, as long as the work did not run out or was not seasonal at best.

In no way could an average Christian afford a New Testament, not to mention one Gospel. He might be able to afford a small epistle, if he scrimped and saved money, but the cost of daily living would typically prove too high. This is why reading the Scriptures in church was essential throughout church history.

Christians today should be grateful that they can afford Bibles, even many translations.

## **11. What were the writing utensils and other materials like?**

### Stylus

This was used for wax tablets. It was made of metal, ivory, or bone. A writer pressed down lightly on the tablet, making impressions. As noted in Question Seven, it could be used to draw lines on a prepared parchment. The stylus had a point on one end for writing, and a knob on the other end for correcting errors.

### Reed pen

It is probable that both New Testament manuscripts and other documents were written with reed pens. “To make a reed pen, the reed stalk was dried, sharpened to a point on one end, and slit somewhat as a modern pen point is slit” (Greenlee, pp. 12-13). The pen had to be re-inked about every fourth or sixth letter (Metzger and Ehrman, p. 27, note 37).

### Other implements

The scribe needed some additional implements: a knife for making a new pen, “a whetstone for sharpening the knife, pumice stone for smoothing the parchment sheet and for sharpening the pen point, and a sponge for erasing and for wiping the pen point” (Greenlee, p. 13).

### Ink

Two of the most common kinds were “ink made of lamp-black and gum dissolved in water, which produced very black writing; and ink made from nut-galls, which produced a fine rusty-brown color” (Greenlee p. 13). A nut-gall is also called an oak gall, which “is a curious ball-like tumor, about the size of a small marble, that grows mainly on the leaves or twigs of oak trees” (Metzger and Ehrman, p. 10-11).

Go online to the University of Michigan for a [photo](#) of a pen, an inkwell, and a papyrus from ancient Greco-Roman Egypt. Here is a [photo](#) of other writing material from the same site.

## **12. What did ancient books look like?**

There were two main forms.

First, the roll or scroll:

In the Greco-Roman world, literary works were customarily published in the format of a scroll, made of papyrus or parchment. The papyrus scroll was made by gluing together, side by side, separate sheets of papyrus and then

winding the long strip around a roller, thus producing a volume (a word derived from the Latin *volumen*, “something rolled up”). (Metzger and Ehrman, p. 12)

The length of a scroll works out nicely for the longer books of the New Testament.

The length of the papyrus roll was limited by considerations of convenience of handling it; the normal Greek literary roll seldom exceeded 35 feet in length. Ancient authors therefore would divide a long literary work into several “books,” each of which would be accommodated in one roll. The two longest books in the New Testament, the Gospel of Luke and the Book of Acts, would have filled an ordinary roll of 31 or 32 feet in length. Doubtless, this is one of the reasons why Luke and Acts were issued in two volumes. (Metzger and Ehrman, p. 12)

The scroll was arranged in a series of columns, each about 2 or 3 inches wide.

The scroll had its disadvantages, however. It was inconvenient to use, requiring two hands to roll it up or unwind it. Also, it was difficult to find a passage that the reader needed.

Second, the codex:

The codex is a leaf or page form of a book. It was made by folding a sheet of papyrus in the middle, and combining as many folded pages as needed, and then sewing together the folded ends.

### **13. Why did early Christians prefer the codex to the scroll?**

Christians found that this form had a number of advantages over the roll: (1) it permitted all four Gospels or all of the Epistles of Paul to be bound in one book, a format that was impossible so long as the roll was used; (2) it facilitated the consultation of proof texts; (3) it was better adapted to receiving writing on both sides of the page, thus keeping the cost of production down. (Metzger and Ehrman, p. 13)

Metzger (and Ehrman, though the above excerpt and the following facts are found in the third edition without Ehrman) notes an economic advantage. The savings of the codex over the scroll was 44%. Combining the cost of the papyrus and the wages of the scribe would save about 26% (p. 14).

### **14. What was handwriting like?**

Uncial or majuscule

This is Greek capital letters. Both papyri and parchment were written on with uncials. This is also known as book-hand style. It was written without spaces between words, so a reader had to be careful as he read a text out loud.

### Minuscule or cursive

“Cursive” comes from Latin for “running.” It was smaller, and the letters tended to run together. This style came into its own in the ninth century and later.

Metzger (and Ehrman, though this excerpt is found in Metzger’s third edition without Ehrman) explains the differences between uncial and cursive, both in use and purpose.

In antiquity, two styles of script for writing Greek were in general use: the *book-hand* and the *cursive*. Both have existed side by side; the book-hand is conservative, but the cursive can change very quickly, with forms that tend to invade the book-hand. The cursive, or “running,” hand could be written rapidly and was employed for non-literary, everyday documents, such as letters, accounts, receipts, petitions, deeds, and the like . . . Literary works, however, were written in the more formal style of book-hand, which was characterized by more deliberate and carefully executed letters, each one separate from the other—somewhat like writing in capital letters . . . (p. 17)

### **15. Is there an advantage of one handwriting style over another?**

Again, we let Metzger (and Ehrman, though this excerpt is found in the third edition without him) speak as a premier specialist:

The advantages of using miniscule script are obvious. Miniscule letters, as the name suggests, are smaller than majuscules, and thus writing is more compact. Hence, when the miniscule hand was used, less parchment was required and therefore the book was more economical. Furthermore, a literary work could be produced that was less bulky and therefore easier to handle than a larger manuscript. Moreover, it was possible to write miniscule letters more rapidly than majuscules, and consequently books could be produced more quickly and more cheaply (p. 20).

### **16. All of these processes seem so complicated. Why wouldn’t God protect his Word?**

I have asked and answered this question in the other parts in this series. Christians believe that God works through history and humans. C. S. Lewis’ preliminary study on miracles is relevant. Once the inspired original manuscripts get assimilated into history, they undergo the effects of time:

The moment [the newcomer, e.g. miracle] enters [Nature’s] realm, it obeys her laws. Miraculous wine will intoxicate, miraculous conception will lead to pregnancy, inspired books will suffer all the ordinary processes of textual corruption, miraculous bread will be digested. (*Miracles: A Preliminary Study*, p. 81)

However, these errors have been purged out (and continue to be), with very few remainders. Why can't devout believers today conclude that God is in fact working through humans in the purging process? Isn't this a kind of divine protection that is worked out over time and history?

### **17. So what's the bottom line on all of this? Should I lose my confidence in the New Testament?**

I have also asked and answered this question in the other three articles of the four-part series on New Testament manuscripts, but it is repeated here since it is critical both for seekers and the devout.

Sir Frederick Kenyon (d. 1952), a premier New Testament textual critic of the first half of the twentieth century, is optimistic about the general result of all of the hard work done by many scholars.

It is reassuring at the end to find that the general result of all these discoveries and all this study is to strengthen the proof of the authenticity of the Scriptures, and our conviction that we have in our hands, in substantial integrity, the veritable Word of God (qtd. in Wegner, p. 25).

Kenyon worked in an earlier generation, and other manuscripts have been found since his time. However, nothing has cropped up that challenges in a substantive way the meaning and content of the New Testament. "Still there are relatively few significant variants in the Bible, and among these variants there is very little difference in meaning and content" (Wegner, p. 25).

Christians should have gratitude, if I may intrude with my own opinion, for scholars putting in so much time and energy and for clarifying the New Testament. Somebody has to do this thankless yeoman's work, done often behind the scenes, with no glamour.

Therefore, far from losing your confidence, it should increase.

See the final article in the series: *The Manuscripts Tell the Story: the New Testament Is Reliable*. It quotes the opinions of many specialists on New Testament textual criticism. They also are optimistic.

This article has many links to other scholarship and sites. If the readers would like to click on them, they are encouraged to go to American Thinker, click on "Archives," find "James Arlandson," and then click on the article "New Testament Manuscripts: the Right Stuff"; or they may follow this URL:

[http://www.americanthinker.com/2007/02/new\\_testament\\_manuscripts\\_the\\_1.html](http://www.americanthinker.com/2007/02/new_testament_manuscripts_the_1.html)

The article hosted by [biblicalstudies.org.uk](http://biblicalstudies.org.uk) has been updated in other areas.



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