A Genealogical History of
the Greek Text of
the New Testament

Volume 13

A Genealogical History of
the Greek Text of
First Timothy

By

James D. Price

Table of Contents

List of Tables

List of Figures

CHAPTER 1
INTRODUCTION

This book is the thirteenth in a series of studies regarding the genealogical history of the text of the Greek New Testament. Volume 1 provided the genealogical history of the Greek text of the Gospel of Matthew; this volume does the same for the Book of 1 Timothy. The first volume provides an introduction to textual criticism, a review of the various textual critical theories and methodologies, a description of a genealogical theory of textual criticism along with its methodology. Readers not familiar with that volume should read at least the first four chapters of that study before going further, because this work presumes the reader has that informed background. What follows is a brief summary of those chapters.

Textual Criticism

Textual criticism is the branch of literary science which studies surviving copies of ancient literature[1] with the intent of determining the original form of a literary composition.[2] The problem is that surviving copies of a composition differ because of scribal errors accumulated during the copying history of the composition. At certain places in the text of a composition, existing copies may differ, one having this reading, another having that reading, and yet another having the reading originally written by the author. Such places are called places of variation, and such differing readings are called textual variants. Every place of variation has at least two textual variants.

Because every manuscript is a copy of some earlier copy (exemplar), intuitively one imagines the history of the manuscripts of a composition to be like a family tree. So initially textual scholars of classical literature took this approach with some measure of success. However, when it came to the text of the Greek New Testament, scholars despaired and regarded the genealogical approach as much too complex because of the large number of manuscripts and large number of variants. So, various theories and methodologies were developed to work with the variants at each

---

[1] Literature composed before the invention of printing, copies of which exist only in handwritten documents. A handwritten copy is referred to as a manuscript.

[2] The original text of a composition, that is, the actual words written by the hand of its author, is referred to as its autographic text.

place of variation to decide which reading is more likely original. But with the development of high-speed computers, the complex data processing is no longer a problem; all that is needed is a viable genealogical theory together with its associated programable methodology. That's where this project came on the scene.

The present genealogical theory is based on several known facts about the relationship of manuscripts and variant readings. (1) It is a fact that the variants in a manuscript consist of all the uncorrected scribal errors of its ancestral exemplars; this collection of variants may be regarded as the genealogical history of the manuscript, and may be likened to its DNA code. In addition, the variants introduced by the parent exemplar of a manuscript may be regarded as its sibling gene. So, every manuscript has its own DNA and sibling gene, and these data are recoverable from the manuscript database. (2) Sibling manuscripts may be identified by mutual sibling genes, or by greatest quantitative affinity,[3] or by both. (3) Sibling manuscripts are daughters of the same parent exemplar the readings of which may be recovered from the consensus of its daughters' readings, except where no consensus exists. Sibling daughter manuscripts inherit all the readings of their parent exemplar except where their own scribes initiate a new one. In case of ambiguity (where no consensus exists), one variant will have been inherited and the other will have been newly initiated. Inherited variants have history and may be identified by the principle of delayed ambiguity,[4] whereas newly initiated variants have no history and fail the test of delayed ambiguity. (4) A re-constructed exemplar may stand in place of all its descendants in the database, and function as their representative in that stage of reconstructing the genealogical history. (5) Iteration of the above steps will converge genealogical stemma into a single exemplar representing the auto-graphic text. The actual methodology as described in the first volume is more complex than the above, but the above is sufficient to describe the basic principles.

The Problem of Mixture

Mixture occurred when a scribe copied from more than one exemplar. Critics of the gene-alogical method assert that mixture creates an irresolvable complication. But, as it turned out, as far as the reconstructing procedure is concerned, a reading copied from a secondary exemplar is

---

[3] Quantitative affinity is a measure of how similar two manuscripts are to one another.

[4] The principle of delayed ambiguity says that the inherited variant will be a reading of a sibling sister exem-plar when it develops.

no different than a variant newly initiated by the scribe either by mistake or intent. Both are uninherited from the primary exemplar; the only difference is that a newly initiated variant has no history, whereas a variant borrowed by mixture has a history, but a history outside the genealogical descent of the primary exemplar. So, mixture is not a problem for the reconstruction methodology described above. The sources of mixture in genealogical history may be of interest in some cases. A separate algorithm of the software finds the most likely source of every variant introduced by mixture rather than by scribal error or intent.

The Database Used

The database used in this project is derived from an expansion of the Nestle-Aland 27th edition of the *Greek New Testament*[5] hereafter referred to as NA-27. The variations of the text are listed at the bottom of each page, providing the verse number where the variation occurs, the associated symbol indicating the kind of variation, the alternate readings that occur there, and a list of witnesses[6] that contain the given alternate reading. The list of witnesses is provided in compressed form in order to avoid as much repetition as possible. This compressed form is useful for conserving paper and ink, and is relatively easy for scholars to follow. But the computer software must have every item of data explicitly recorded, that is, there must be a record of every witness to the text under study, and a record of which variant reading each witness has at every place of variation. This necessity requires the NA-27 database to be unpacked and expanded. Until recently the NA-27 database existed only in printed form, and expanding the data into the form needed by the genealogical software was a complex and time consuming task.[7] However, the database is now available in digital electronic form in the *Stuttgart Electronic Study Bible*.[8] That form of the database is capable of being expanded and unpacked electronically.

The expanded database consists of two separate files, one containing a list of every witness together with its name, date, language, and content. The second file is a list of every place of variation in the NA-27 database, the chapter and verse number where the variation occurs, the

---

[5] *Novum Testamentum Graece* (Stuttgart: Deutsche Bibelgesellschaft, 1997).

[6] The witnesses consist of individual manuscripts, translations, and patristic quotations.

[7] All my prior research with the genealogical software was done with data manually extracted from the already expanded database in the United Bible Society's *Greek New Testament*.

[8] Christof Hardmeier, Eep Talstra, and Bertram Salzmann, *The Stuttgart Electronic Study Bible* (Stuttgart, Germany: The German Bible Society, 2004); used with permission.

Greek text of each variant at that place of variation, along with a list of witnesses containing the given variant.

The present program, called Lachmann-10 herein, is written in the Turbo Pascal 7.0 programming language intended for IBM compatible machines with extended memory. The size of the problems it can handle is flexible and is limited only by the amount of RAM available and the speed of the machine [up to a maximum of 2,000 variation units and 2,000 manuscripts]. Large problems require a reasonable amount of time to converge on a solution. The next chapter describes the genealogical history of the extant witnesses to the Greek text of the Book of 1 Timothy.

CHAPTER 2
WITNESSES TO THE TEXT OF 1 TIMOTHY

The witnesses[1] to the text of the Book of 1 Timothy used in this study are those derived from the electronic form of the textual apparatus of the NA-27 edition of the Greek New Testament as contained in the *Stuttgart Electronic Study Bible*[2] as edited and modified for the purposes of this project. They consist of 96 existing witness[3] of various types:

(1) Papyrus manuscripts	0
(2) Uncial manuscripts	21
(3) Minuscule manuscripts	33
(4) Lectionary manuscripts	2
(5) Latin Versions	11
(6) Egyptian Versions	4
(7) Syriac Versions	2
(8) Greek Church Fathers	8
(9) Latin Church Fathers	7
(10) Printed Editions	8[4]

The witnesses to the text of an ancient document must have several characteristics before a reasonably reliable reconstruction of its genealogical history can be made. Among these are (1) number of witnesses, (2) date, (3) completeness, (4) limited variableness, (5) commonness of text,

---

[1] I use the term witness because the reconstruction of genealogical history derives evidence not only from extant manuscripts but also from ancient translations and quotations from church fathers. In addition, a few printed editions are involved although not for reconstruction purposes.

[2] Christof Hardmeier, Eep Talstra, and Bertram Salzmann, *The Stuttgart Electronic Study Bible* (Stuttgart, Germany: The German Bible Society, 2004).

[3] Appendix A lists all the extant witnesses by name, date, language, content, number of readings, and percentage of completeness.

[4] Four editions of the Latin Vulgate: vg^cl, cg^s, vg^st, and vg^ww; Scrivener's TR; Hodges-Farstad HF; Robinson-Pierpont's RP; and NA27. These do not contribute to reconstructing the stemma.

and (6) genealogical affinity. These characteristics of the available witnesses to the text of 1 Timothy are discussed below and are shown to be suitable for a reasonable reconstruction of its textual history.

Number of Witnesses

Contrary to the number of available witnesses to the texts of ancient classical literature, there are approximately 2,328 existing Greek manuscripts of the Gospels, including about 178 fragments.[5] This does not include the witnesses of the ancient translations and church fathers. This study makes use of the 96 witnesses to the Book of 1 Timothy recorded in the NA-27 apparatus which includes all the ancient papyri witnesses and most of the existing manuscripts dating before the ninth century and a good sample of those from later times. This number includes the consensus witness of the many manuscripts of the text used in the Greek speaking Byzantine churches together with a number of manuscripts related to the Byzantine text. Also, it contains the consensus witness of the many manuscripts of the Latin Vulgate and the individual witness of four different printed editions of the Vulgate. The various Old Latin translations also are represented by a consensus of a number of manuscripts of each of these individual translations. Consequently, the consensus witnesses bring many additional manuscripts indirectly into the reconstruction process. There is good reason to believe that there are sufficient witnesses to the text of the Book of 1 Timothy to reconstruct its genealogical history.

Date

While it is possible to reconstruct the genealogical history of a text without the benefit of dates, they are very helpful for accurately locating scribal activity in real history. The dates of the witnesses to 1 Timothy range from the second to the twentieth centuries.[6] Table 2.1 and its associated graph display the reasonably good distribution of the witnesses by date.

---

[5] Aland and Aland, p. 83.

[6] The witnesses in the 19th to the21[st] centuries are printed editions that do not contribute to the reconstruction of the genealogical history.

Completeness

Many of the witnesses are fragmentary, not all their text having survived the passage of time. Only 39 of the 96 witnesses have 96-100% of their text complete, and only 50 have a text 80% or more complete; thus, completeness is significant for this study. Table 2.2 and its associated graph display the distribution of completeness for the witnesses used in this study.

**Table 2.1:
Distribution of Extant
Witnesses by Century:**

Century	Number of Wit-nesses
1	0
2	1
3	8
4	7
5	13
6	7
7	5
8	1
9	13
10	8
11	6
12	11
13	3
14	3
15	2
16	2
17	0
18	0
19	2
20	4
21	0

Distribution of Extant Witnesses by Century
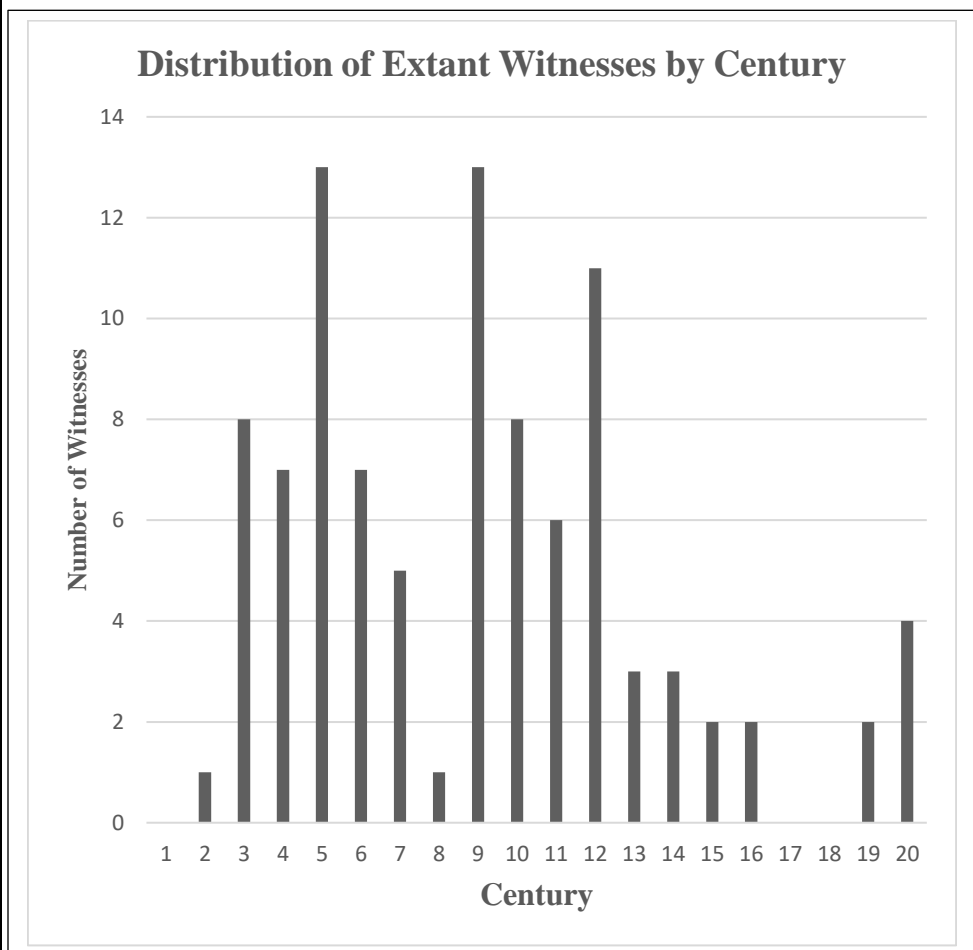
Completeness is important for the reconstruction of the textual history, because the computer depends on minimal difference between witnesses to determine quantitative affinity. Consequently, the computer reconstructed the genealogical history on the basis of witnesses having at least 80% of their text complete; the more fragmentary witnesses are added to the genealogical tree where they best fit after the tree is constructed. The fragmentary witnesses are still important and should not be excluded from the study because they contribute to establishing fixed dates in the textual history.

Table 2.2
Distribution of Witnesses
by Completeness:

% Complete	Number of Witnesses
0-5	14
6-10	2
11-15	2
16-20	0
21-25	1
26-30	3
31-35	0
36-40	2
41-45	2
46-50	3
51-55	4
56-60	0
61-65	3
66-70	5
71-75	2
76-80	5
81-85	8
86-90	0
91-95	1
96-100	39

Distribution of Witnesses by Completeness
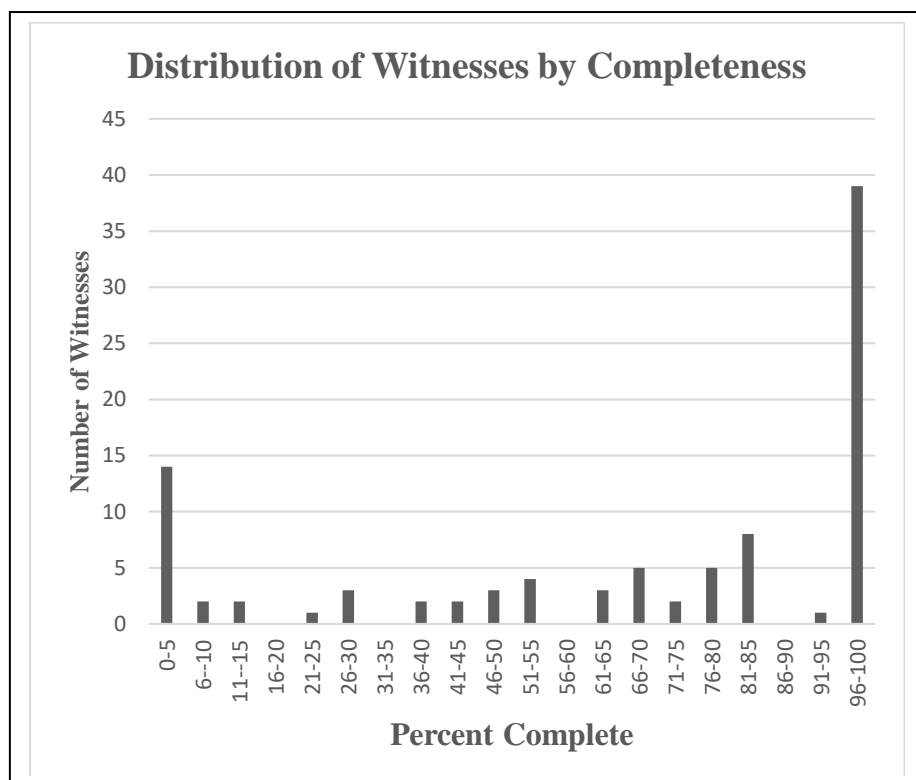
Because many of the witnesses are fragmentary, it is of interest to know the distribution of those witnesses having 80% or greater completeness. They are the ones that contribute to the reconstruction of the genealogical history. Table 2.3 and its associated graph display the distribution of these witnesses. It is evident that numerous contributing witnesses are from as early as the fourth century, so a reasonably good reconstruction can be expected.

Limited Diversity

The more diverse the text the more difficult the reconstruction of its textual history is. In the overall picture, all witnesses to 1 Timothy agree in over 90% of the text. The places of variation and the number of variants at those sites provide the data for reconstruction. However, even so, the number of places of variation and the number of variants constitute a limit to what can be reconstructed because of the magnitude and complexity of the problem.

Table 2.3
Distribution of Witnesses of
80% or Greater Completeness
by Century

Century	Num. of Witnesses
1	0
2	0
3	0
4	1
5	5
6	3
7	0
8	0
9	10
10	6
11	4
12	8
13	3
14	2
15	1
16	0
17	0
18	0
19	1

Distribution of Witnesses of 80% or Greater Completeness
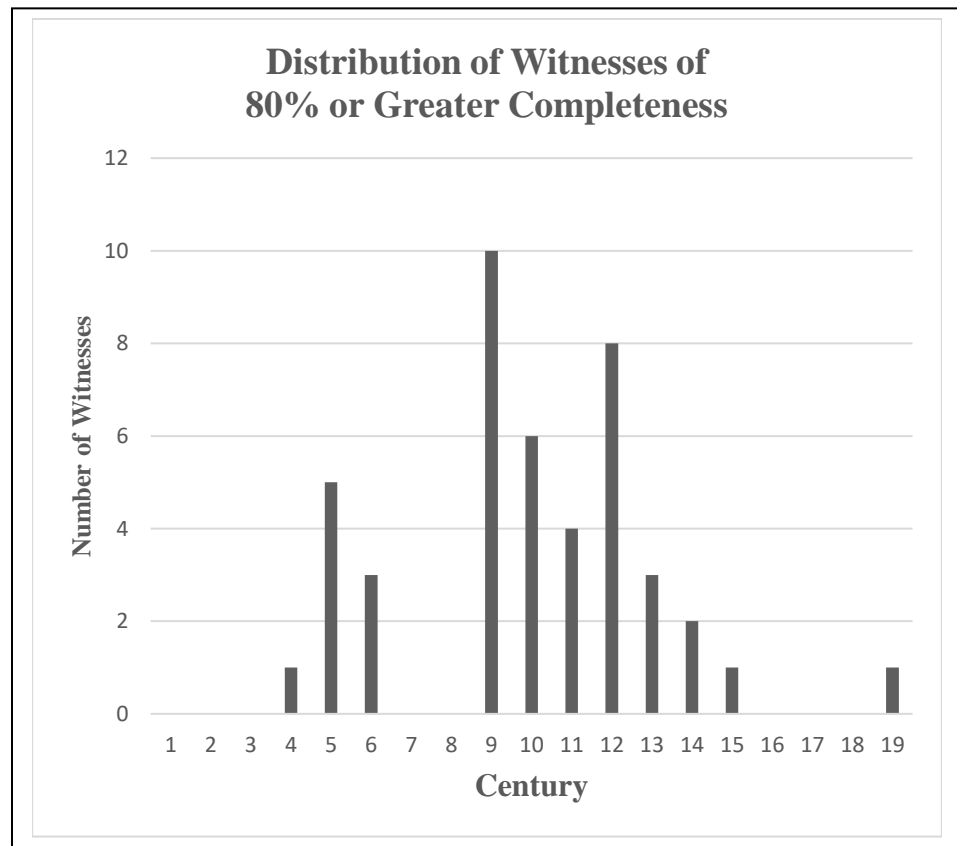
But modern technology has expanded that limit to where reconstruction is now possible for texts the size and diversity of 1 Timothy. The NA-27 apparatus records 87 places of variation[7] for the Book of 1 Timothy with a total of 191 variant readings distributed among them.[8] This averaged out to 2.19 variants per place of variation. In earlier decades, this amount of information would have been impossible to manually process, but not so today; my desktop computer provides complete solutions to problems this size in just a matter of minutes. Table 2.4 and its associated graph display the distribution of the number of variations per place of variation. For example, 73 places of variation have only two variations whereas only three places of variation have four variations.

Table 2.4
Distribution of Number of Variations
per Place of Variation

Number of variants	Number of Places of Variation
1	0
2	73
3	11
4	3
5	0
6	0
7	0
8	0
9	0
10	0
Total =	191

Distribution of Number of Variations per Place of Variation
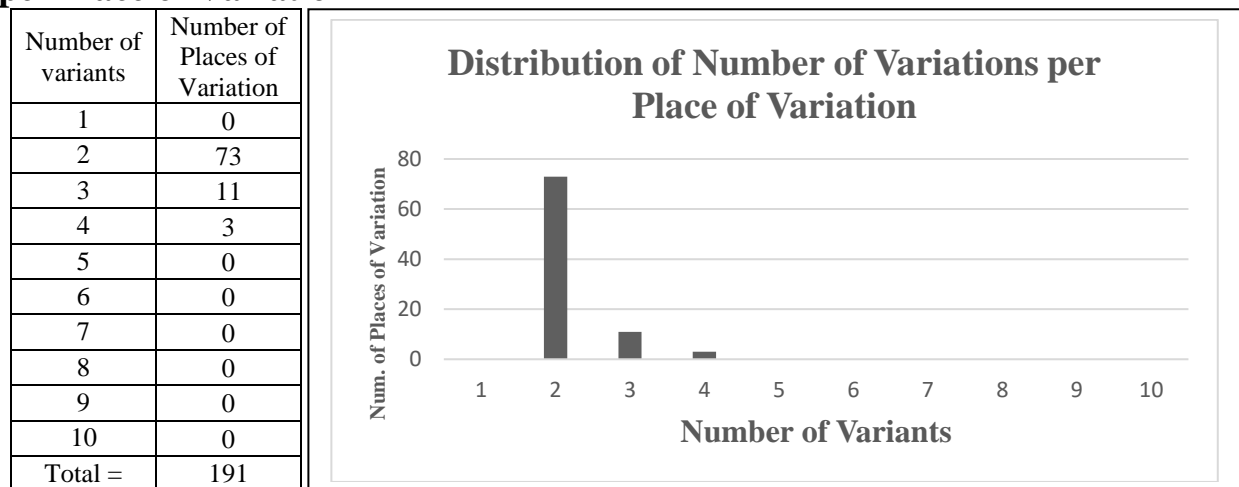
However, a few maverick witnesses occur whose diversity obscures their genealogical affinity. These witnesses skew the reconstruction of the stemma and for this reason are excluded from the process but are added to the completed stemma where they best fit. For 1 Timothy they are vg^cl, and vg^st; these each have an affinity with their parent exemplar of only 65-70%.

---

[7] Of course, there are more places of variation than this, but the editors of the NA-27 text have weeded out those that are insignificant for reconstruction and meaning.

[8] Appendix B provides a map showing where the places of variation occur in the text by chapter and verse.

The NA-27 apparatus records seven different types of variations to the text. Table 2.5 displays the distribution of these types of variation for the Book of 1 Timothy. While the type of variation has no significance for the reconstruction process, the information is provided for those who are interested.

Table 2.5
Distribution of Variation Type

Omit a word	6
Omit a phrase	4
Alternate word	104
Alternate words	25
Transposed words	2
Added word or phrase	50
Other	0
Total =	191

Commonness of Text

Commonness is a measure of the percentage of text two witnesses have in common. When two witnesses both have complete texts, that is, they are not fragmentary, having readings at every place of variation, they have 100% commonness, regardless of the agreement or disagreement of their readings.

Fragmentary witnesses, however, are less than complete and may actually have no commonness of text. For example, witness A may be 40% complete, lacking the text for the last 60% of the places of variation, and witness B may be 40% complete, lacking the text for the first 60% of the places of variation; as a result, the two witnesses have no commonness of text. The greater the commonness of text two witnesses have the greater potential they have for genealogical affinity. Table 2.6 and its associated graph display the distribution of commonness each witness shares with every other witness for the Book of 1 Timothy.

Quantitative Affinity

Quantitative affinity[9] is a measure of how strongly two witnesses are genealogically related. Witnesses are genealogically related when they have many of the same readings at their shared places of variation. Quantitative affinity is determined by the number of places of variation where the witnesses have the same reading divided by the number of places of variation the witnesses have in common. For example, if witness A and witness B have 1,000 places of variation in common, and in 952 places they have the same reading, the quantitative affinity of A to B is $952 \div 1,000 = 0.952$ or 95.2%. Table 2.7 and its associated graph display the distribution of quantitative affinity among all the pairs of witnesses for the Book of 1 Timothy.

Table 2.6
Distribution of Commonness of
Text among Witnesses

% Commonness	Number of witness pairs
0-5	1,087
6-10	122
11-15	142
16-20	67
21-25	96
26-30	172
31-35	13
36-40	81
41-45	190
46-50	229
51-55	193
56-60	72
61-65	189
66-70	234
71-75	93
76-80	260
81-85	295
86-90	0
91-95	46
96-100	734

Distribution of Commonness of Text Among Witnesses

---
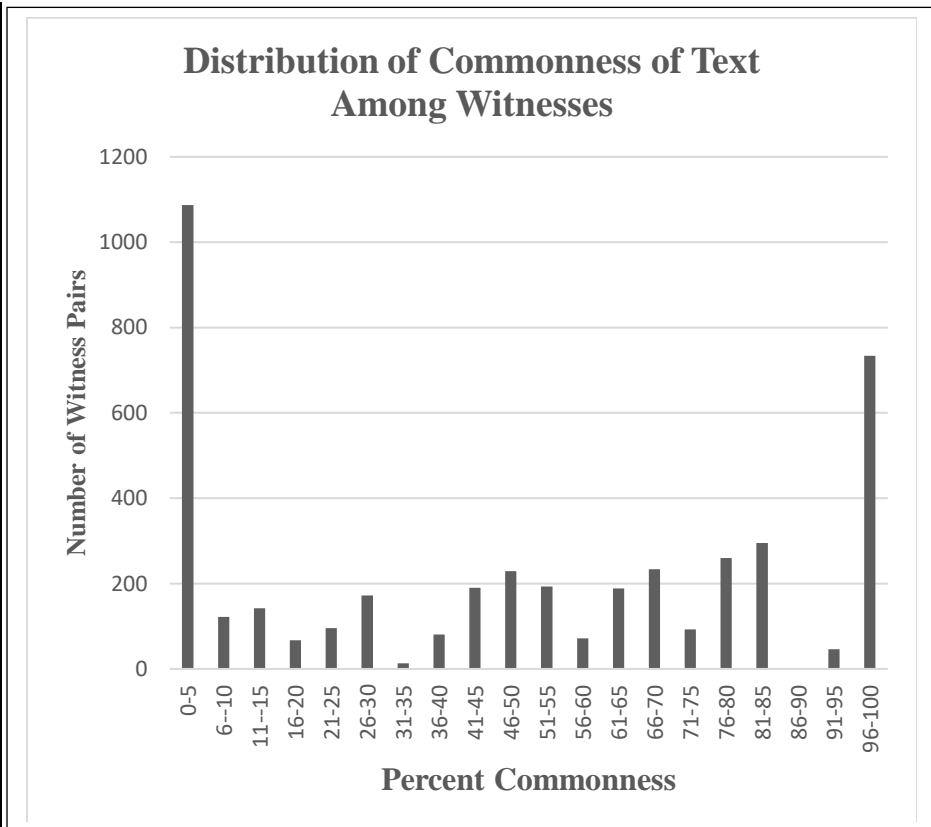
[9] Quantitative affinity is supplemented by the sibling gene to affirm sibling relationship.

It is evident that many of the extant witnesses to 1 Timothy have relatively strong quantitative affinity with one another. These data are skewed because of the many fragmentary witnesses. A better picture of the significant affinity is that which is among witnesses having 80% content or greater. These witnesses are the ones used to reconstruct the genealogical history. Table 2.8 and its associated graph display the distribution of quantitative affinity among witnesses having 80% content or greater. This suggests that reconstruction of the genealogical history is reasonably feasible.

Table 2.7
Distribution of Quantitative Affinity
Among all Witnesses

% Affinity	Number of Witnesses
0-5	661
6--10	3
11--15	8
16-20	38
21-25	51
26-30	8
31-35	113
36-40	72
41-45	243
46-50	363
51-55	248
56-60	490
61-65	277
66-70	317
71-75	274
76-80	258
81-85	295
86-90	197
91-95	177
96-100	467
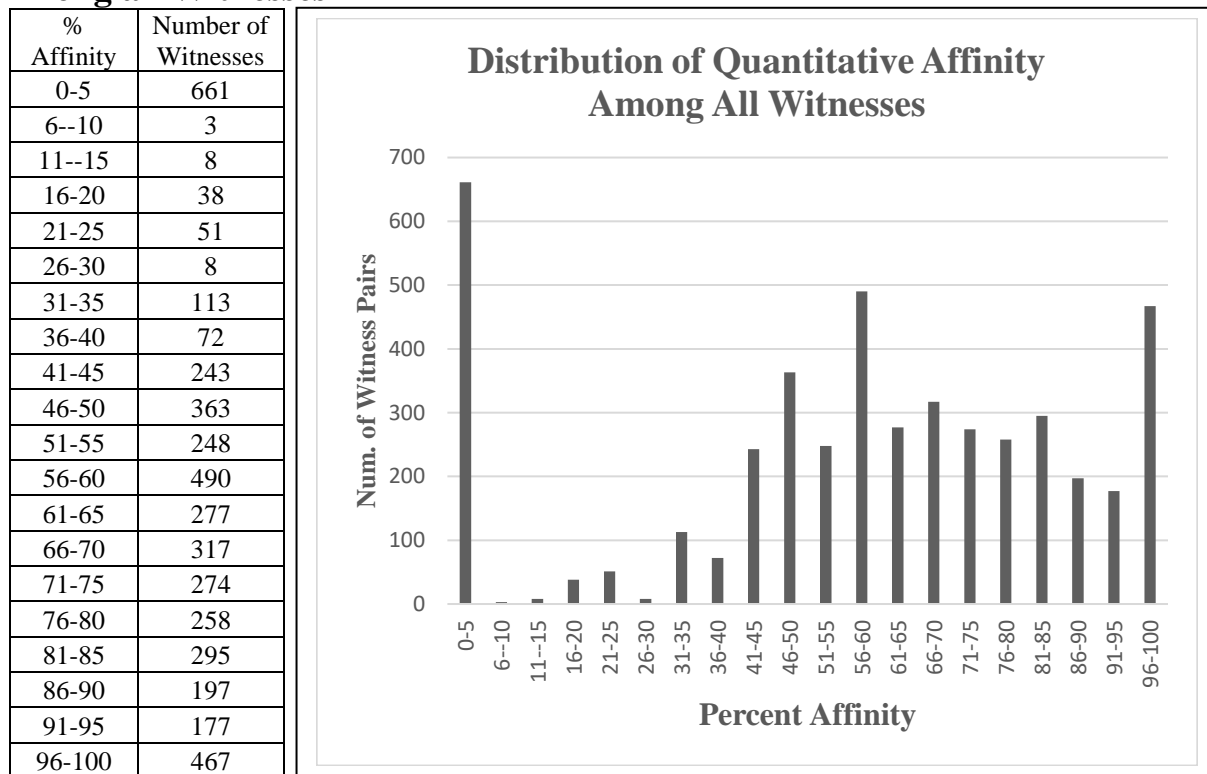
Genealogical Affinity

Genealogical affinity among witnesses occurs when they share a common sibling gene. The sibling gene of a witness consists of the variants initiated in its parent exemplar. This information is derived from the database as the variants two witnesses share that occur a minimum number of times in the database.

**Table 2.8
Distribution of
Quantitative Affinity
Among Witnesses with
80% or Greater Content**

% Affinity	Number of Witnesses
0-5	0
6--10	0
11--15	0
16-20	0
21-25	0
26-30	0
31-35	0
36-40	22
41-45	194
46-50	88
51-55	85
56-60	155
61-65	70
66-70	57
71-75	38
76-80	21
81-85	31
86-90	39
91-95	17
96-100	129

Distribution of Affinity Among Witnesses with 80% or Greater Content
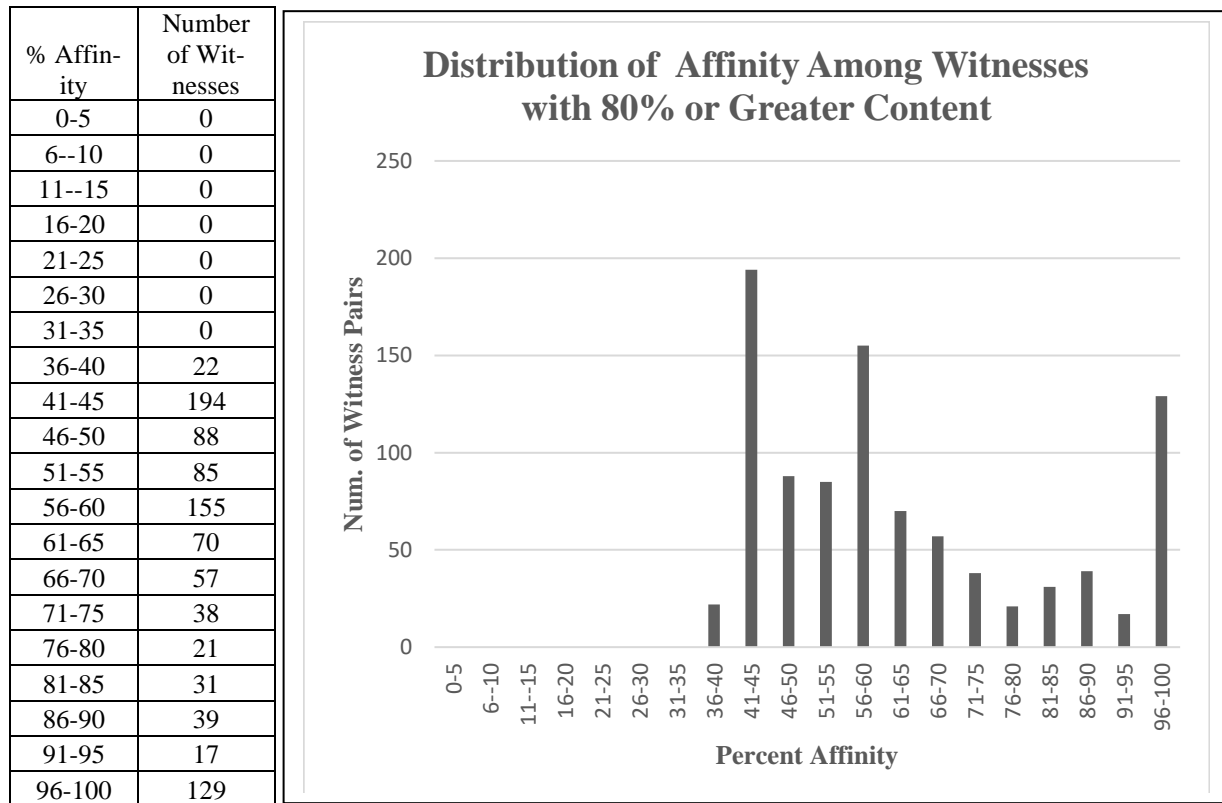
Conclusion

There are sufficient witnesses to the text of the Book of 1 Timothy with dates distributed over the historical period of interest, being sufficiently complete, having relatively limited diversity, and having ample mutual commonness and strong genealogical affinity. There is good reason to expect that the genealogical history derived from these witnesses will be a good approximation of the actual textual history of the book.

CHAPTER 3
GENEALOGICAL HISTORY OF
THE MANUSCRIPTS OF 1 TIMOTHY

This chapter presents the genealogical history of the manuscripts[1] of the Greek text of the Book of 1 Timothy as reconstructed by computer program Lachmann-10.[2] Beginning with a data base of 96 existing witnesses, 87 places of variation, and 191 variants, the program reconstructed 19 intermediate exemplars, arranging them in the genealogical stemma (tree diagram) presented in its full form in Appendix C, but in a condensed form in Figure 3.1.[3] This condensed form portrays the genealogical interrelationship of all the reconstructed exemplars of the text of 1 Timothy but with only one principal extant witness. Figure 3.2 displays a second tree diagram including most of the terminal witnesses. The rectangular boxes contain the information for the exemplars created by the software and the boxes with rounded corners contain the information for the extant witnesses. Witnesses in the same box are siblings. All the technical data and diagrams contained in this chapter were derived from the monitor screen of Lachmann-10 or the report it created.

The head exemplars of the three main branches of the stemma are Exemplars Ex-112#, Ex-113#, and Ex-114#; the texts of these exemplars are the ancient recensions from which the three unique text traditions developed. These branches are quite independent of one another, having mutual affinities ranging from 76% to 83%. But they have affinities with the autograph ranging from 87% to 94%. In addition, the sibling gene of each uniquely distinguishes them from one another. The following table lists the mutual differences and affinities of these exemplars.

	Ex-112#	Ex-113#	Ex-114#	Autograph
Ex-112#		83%	82%	94%

---

[1] The term *manuscript* is used here in its inclusive sense of manuscripts, translations, church fathers, and reconstructed exemplars—the sense I usually assign to the term *witness*.

[2] The total computing time was one minute and forty-three seconds including the time required for the software to assemble and format all the information contained in the tables, diagrams, and appendices of this book.

[3] The full diagram, displayed in Appendix C, requires six pages. The condensed form deletes all the terminal branches (extant witnesses) except one at each exemplar—the most interesting one. Likewise, it omits exemplars that only account for same-generation mixture (those with a $ sign attached to their name).

Ex-113#	15		76%	89%
Ex-114#	16	21		87%
Autograph	5	10	11	

Figure 3.1
Condensed Tree Diagram of 1 Timothy
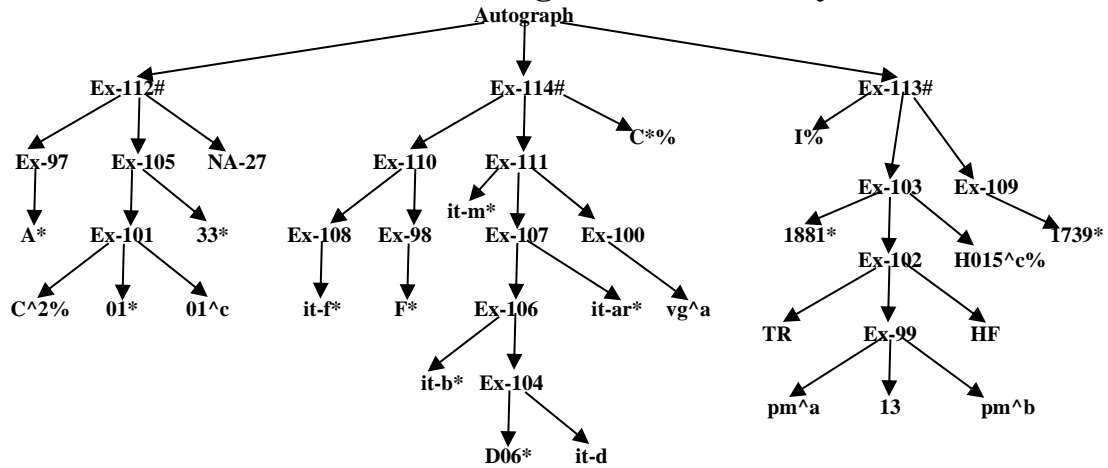
Readings of the Autographic Text

The theory expressed in the first volume of this series[4] indicates that the readings of the autographic text should be determined on the basis of the "consensus among ancient independent witnesses." The solution for 1 Timothy ended up with three independent recensions which were candidates for being witnesses to the text of the autograph. The guideline given in the theory recommended selecting the three most ancient recensions for use in determining the consensus; for 1 Timothy they are: Ex-112#, Ex-113#, and Ex-114#. The text of the autograph is presented in Appendix D.

---

[4] Chapter Two of *The Genealogical History of the Greek Text of the Gospel of Matthew*.

Figure 3.2
Condensed Genealogical Stemma-1 of 1 Timothy
The Western Recension
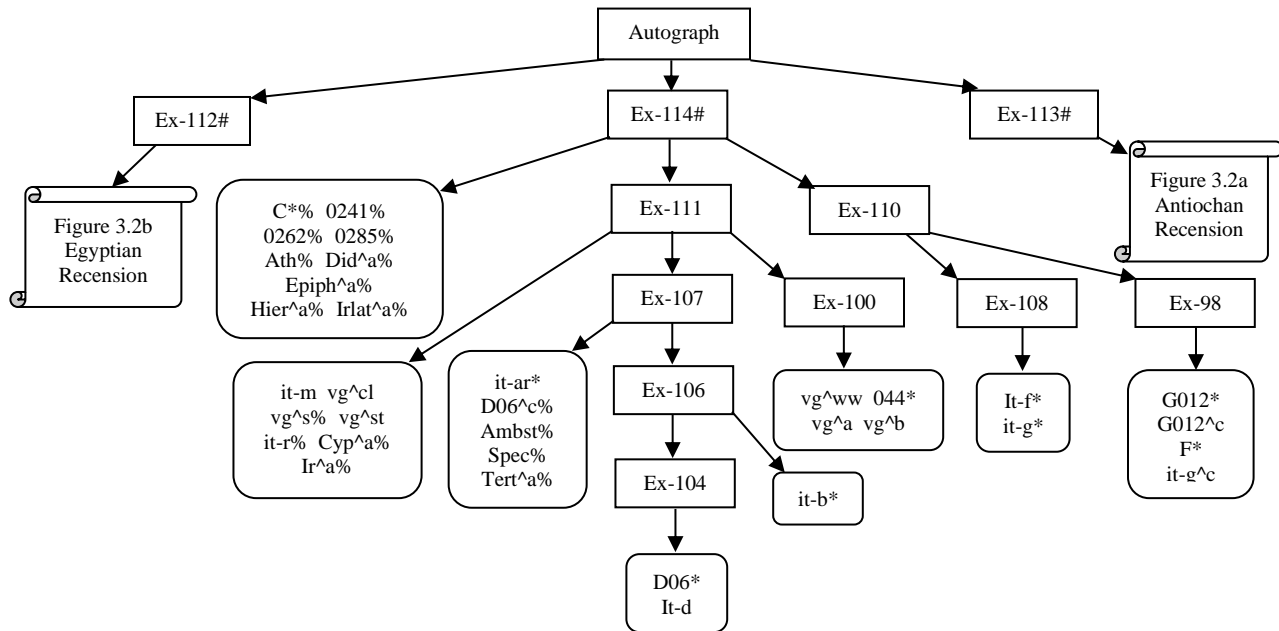
The Western Text Tradition

Figure 3.2 displays the fuller tree diagram of the genealogical history of the text of 1 Timothy. It displays the complete Western branch headed by Exemplar Ex-114#, but the complete branch of the Antiochan branch is displayed in Figure 3.2a, and the complete branch if the Egyptian is displayed in Figure 3.2b. Exemplar Ex-114# was the first-century recension (c. AD 80) from which the Western witnesses were derived; it has an affinity with the autograph of 87%, differing from the autograph by 11 variants. I refer to this branch as the Western text tradition because the Latin translations and Latin church fathers are found within its branches. It has six generations and its date is based on that of third-generation church father Irenaeus (Ir^a%c. AD 150).

The Antiochan Text Tradition

Figure 3.2a displays the expansion of the branch of the Antiochan Recension, Exemplar Ex-113#. Exemplar Ex-113# (c. AD 221) was the first-generation recension from which the Antiochan witnesses were derived; it has an affinity with the autograph of 89%, differing from the autograph by 10 variants. It has five generations and its date is based on that of fourth-generation church father Lucifer (Lcf% c. 371). I refer to this branch as the Antiochan text tradition rather than Byzantine because the Syriac translation Sy^h is found among its early witnesses as expected. TR, HF, and RP found their best fit as descendants of third-generation Exemplar Ex-102.

Figure 3.2a
The Antiochan Recension
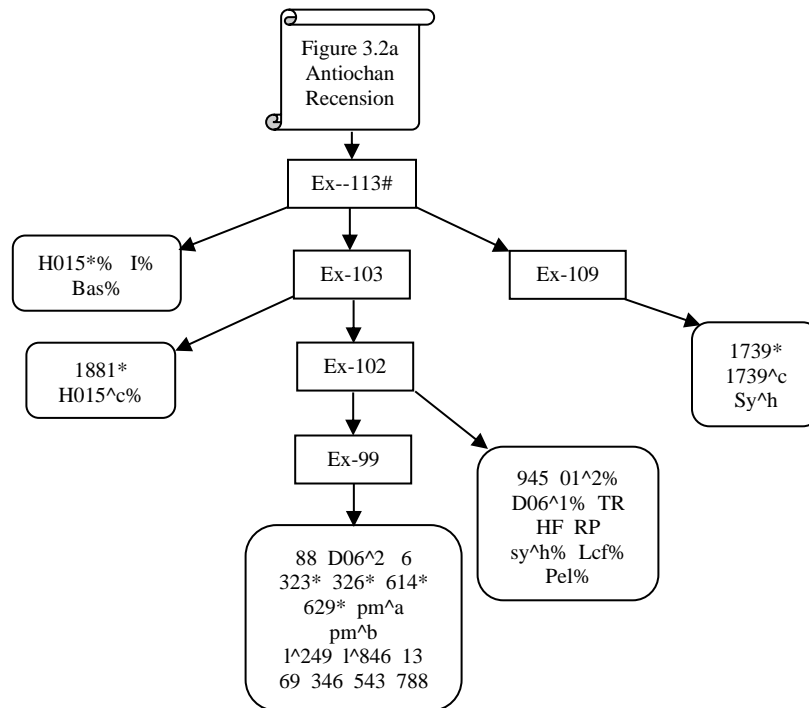
Figure 3.2b
The Egyptian Recension
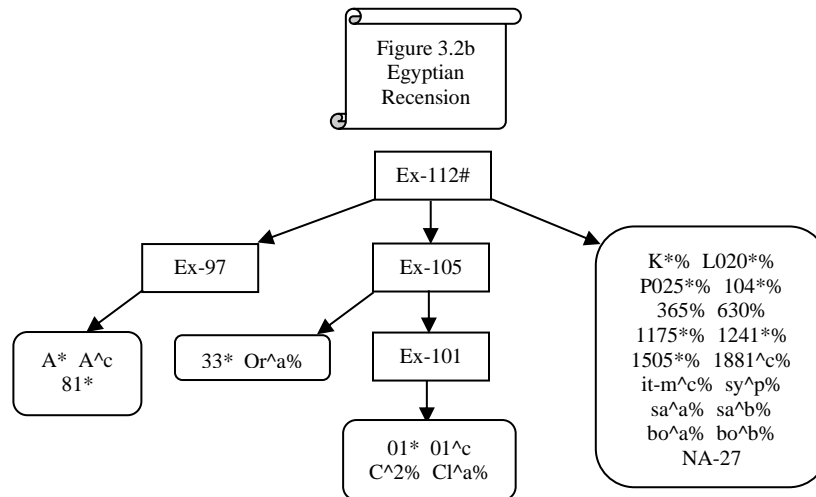
The Egyptian Text Tradition

Figure 3.2b displays the branch of the Egyptian text tradition. Exemplar Ex-112# was the first-generation recension that was the ancestral text from which the Egyptian witnesses were derived. It has an affinity with the autograph of 94%, differing from the autograph by 5 variants. The branch has a depth of four generations. Its date (c. AD 95) is established by fourth-generation fragmentary church father Clement (Cl^a% c. AD 215). NA-27 found its best fit as a daughter of first-generation Exemplar Ex-112#.

The Generations of Genealogical History

Program Lachmann-10 reconstructed the genealogical history of the text of 1 Timothy in eight generations of descent from the autograph. Of course, the exact number of generations cannot be known because the genealogical history before the alleged first-generation major recensions was too fuzzy for the software to accurately reconstruct. The extant witnesses are distributed throughout every generation of the genealogical history. Table 3.1 and its associated graph display the distribution of the extant witnesses of 1 Timothy by generation.

Table 3.1
Distribution of Extant Witnesses
By Generation

Generation	Num. of Witnesses
1	0
2	29
3	17
4	28
5	20
6	2
7	0
8	0
9	0

Distribution of Witnesses by Generation
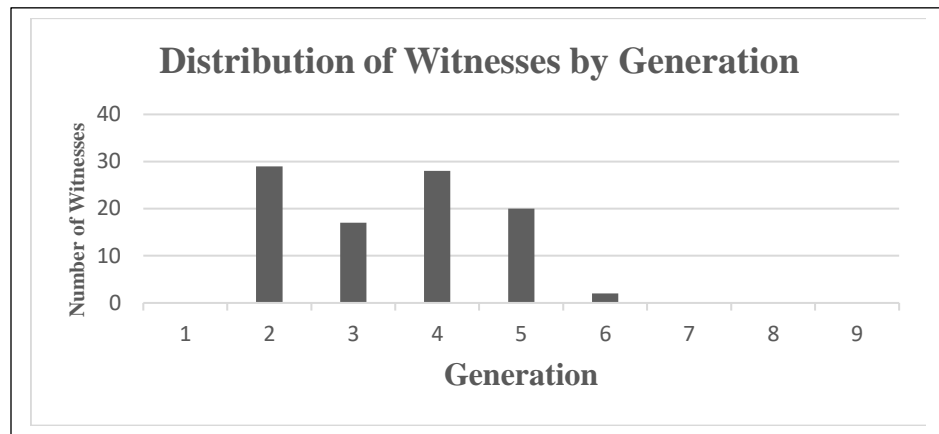
Mixture

The number of parents a witness had is a measure of the mixture of its text; the more parents, the more mixture. At any place of variation, the reading of a witness may differ from that of its primary parent exemplar[5] for one of two reasons: (1) the reading is a newly initiated variant having no prior existence; or (2) the scribe selected the reading from one of the secondary exemplars he was consulting. Witnesses having only one parent experienced no mixture; every variant differing from that of the primary parent exemplar was newly initiated by the scribe either accidentally or intentionally. Table 3.2 displays the distribution of witnesses by number of parents. Those witnesses with the greatest mixture are those with the most diverse text; for example: 33 of the witnesses had only one parent, having no mixture at all; MSS vg^ww and it-ar* have 7 parents; MS vg^b has eight. The sources of mixture are not displayed in the tree diagrams.

---

[5] A primary parent exemplar is the exemplar from which a witness derives its genealogical descent; secondary parent exemplars are the sources from which a witness acquires mixture. A witness has only one primary parent, but it may have any number of secondary parent exemplars.

Table 3.2
Distribution of Witnesses
by Number of Parents

Num. of Parents	Num. of Witnesses
1	33
2	25
3	21
4	17
5	16
6	3
7	2
8	1
9	0
10	0
11	0

Distribution of Witnesses by Number of Parents
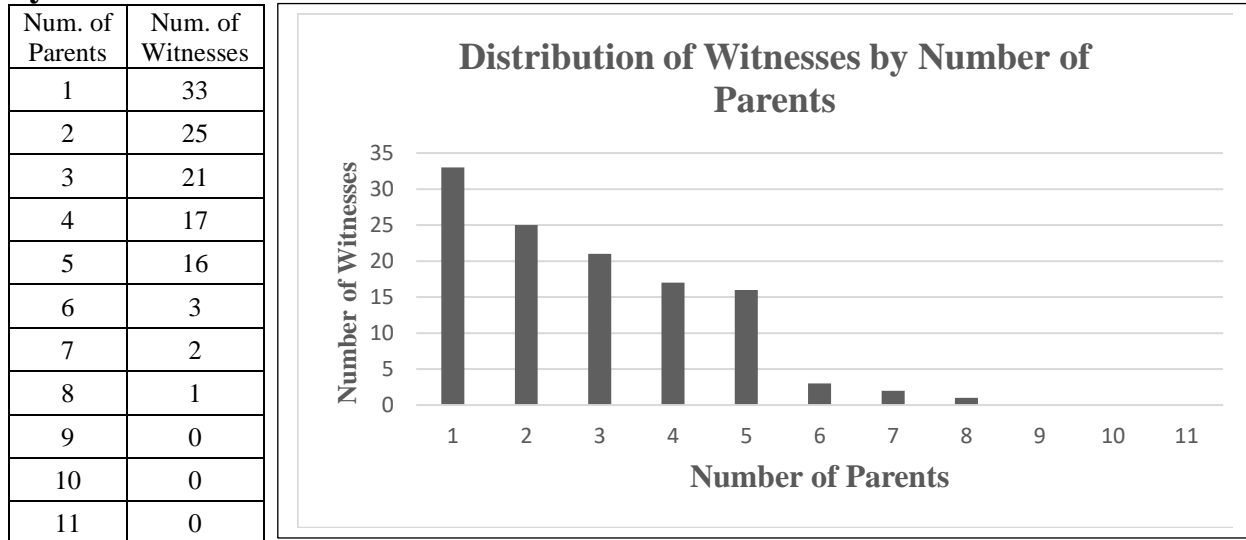
Primary Daughters

When an exemplar is the primary parent of one of its daughter manuscripts, then that daughter in turn is a primary descendant of the exemplar. Except for exemplars created to account for same-generation mixture (those marked with $), an exemplar has at least two primary descendants, but it may have as many as needed for grouping multiple sibling daughters. The number of primary daughters of an exemplar is a measure of how well the software was able to find groups of sibling sisters. Table 3.3 displays the distribution of primary daughters by number of exemplars. For example, 13 exemplars have only 2 primary daughters, whereas only one exemplar (Ex-108) has 12 primary daughters.

Table 3.3
Distribution of Exemplars by Number of Primary Daughters

Num. of Primary Daughters	Num. of Exemplars
2	13
3	3
4	2
19	1
Total	62

Table 3.4
Distribution of Exemplars by Number of Secondary Daughters

Num. of Secondary Daughters	Num. of Exemplars	Num. of Secondary Daughters	Num. of Exemplars
0	6	8	2
1	1	9	2
3	1	24	1
4	1	41	1
5	2	66	1
6	5	Total =	213

Critics of the genealogical theory protest that the genealogical trees it develops are almost exclusively binary, that is, nodes in the tree have only two branches—in other words, reconstructed exemplars have only two primary daughter descendants. Table 3.3 indicates that is mostly true for 1 Timothy, but it was not so for the Gospels. Nevertheless, the principle of delayed ambiguity has rendered the criticism invalid. Exemplars with no primary descendants are those created to account for same-generation mixture; they rightly have no primary descendants.

Secondary Daughters

When an exemplar is the source of mixture (a secondary parent) for one of its daughter descendants, then that daughter is a secondary descendant of the exemplar. An exemplar does not need to have any secondary descendants, but it may have as many as needed for resolving mixture within its associated branch. The number of secondary descendants of an exemplar is a measure of its value as a source of mixture, suggesting that scribes regarded the exemplar as having some measure of authority. Table 3.4 displays the distribution of secondary daughters by number of exemplars. For example, six exemplars have no secondary daughters, whereas only one exemplar (Ex-116$, a virtual source of mixture) had 66 secondary daughters; one exemplar (Ex-114#, the Western recension) had 24 secondary daughters; and one exemplars (Ex-113#, the Antiochan recension) had 9 secondary daughters. Obviously, the ancient scribes regarded these texts as having textual authority. The evidence indicates that there was considerable mixture among the witnesses to the text of 1 Timothy.

Resolution of Mixture

The optimizing procedures of the software resolve all mixture in a genealogical tree, leaving every instance of a variant accounted for either by genealogical descent, by mixture, or by initiation. That is, the software locates the exemplar where every variant originated in the genealogical history of the witnesses.[6] This feature is treated further in Chapter Four where the genealogical history of the variants is discussed.

---

[6] While this is true for the book of 1 Timothy, for some of the other books the software may fail to uniquely identify the place of origin for a small percentage of variants.

Distribution of Affinity

Another measure of the success of the software in reconstructing the genealogical history of the text of 1 Timothy is the distribution of the affinity of the witnesses to their primary parent exemplars. If this affinity is consistently high, the success may be regarded as high. Table 3.5 and its associated graph display the distribution of the affinity of the extant witnesses[7] to their corresponding primary parent exemplar.

Table 3.5
Distribution of Affinity of Extant
Witnesses with Primary Parent

% Affinity	No. of Witnesses
0-5	0
6-10	0
11-15	0
16-20	0
21-25	0
26-30	0
31-35	0
36-40	0
41-45	0
46-50	0
51-55	0
56-60	0
61-65	0
66-70	1
71-75	0
76-80	2
81-85	3
86-90	4
91-95	6
96-100	28
Total	44

Distribution of % Affinity by No. of Witnesses
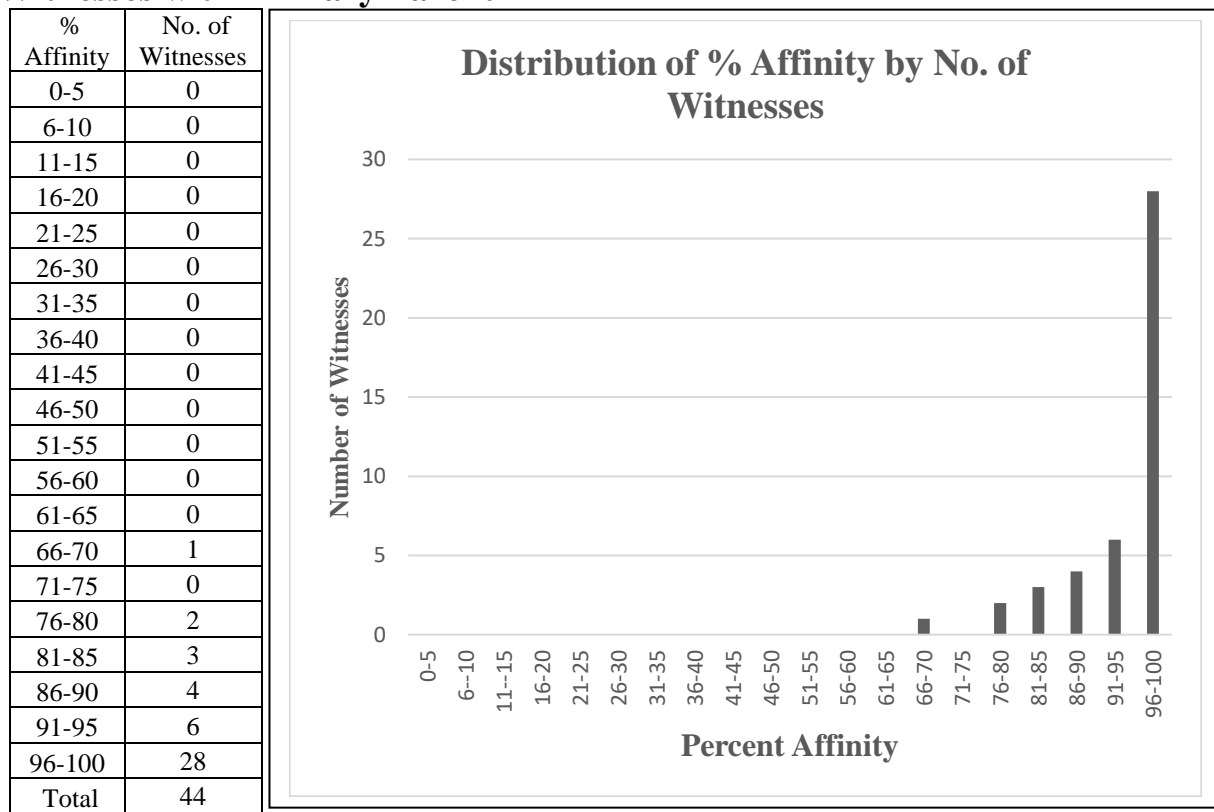
The evidence from Table 3.5 indicates that all but 10 extant witness had a strong affinity (> 90%) with their primary parent exemplar, and all but 6 had an affinity greater than 85%. This

---

[7] Witnesses with less than 80% content are excluded because they do not contribute to the reconstruction of the genealogical history but are attached at the most appropriate place after the tree is complete.

demonstrates that considerable close grouping exists among the extant witnesses. Table 3.6 and its associated graph display the distribution of the affinity of the reconstructed exemplars to their corresponding primary parent exemplar, not including those functioning only to resolve same-generation mixture.[8]

Table 3.6
Distribution of Affinity of
Exemplars with Primary Parent

% Affinity	No. of Witnesses
0-5	0
6-10	0
11-15	0
16-20	0
21-25	0
26-30	0
31-35	0
36-40	0
41-45	0
46-50	0
51-55	0
56-60	0
61-65	0
66-70	1
71-75	0
76-80	3
81-85	2
86-90	4
91-95	3
96-100	8
Total	21
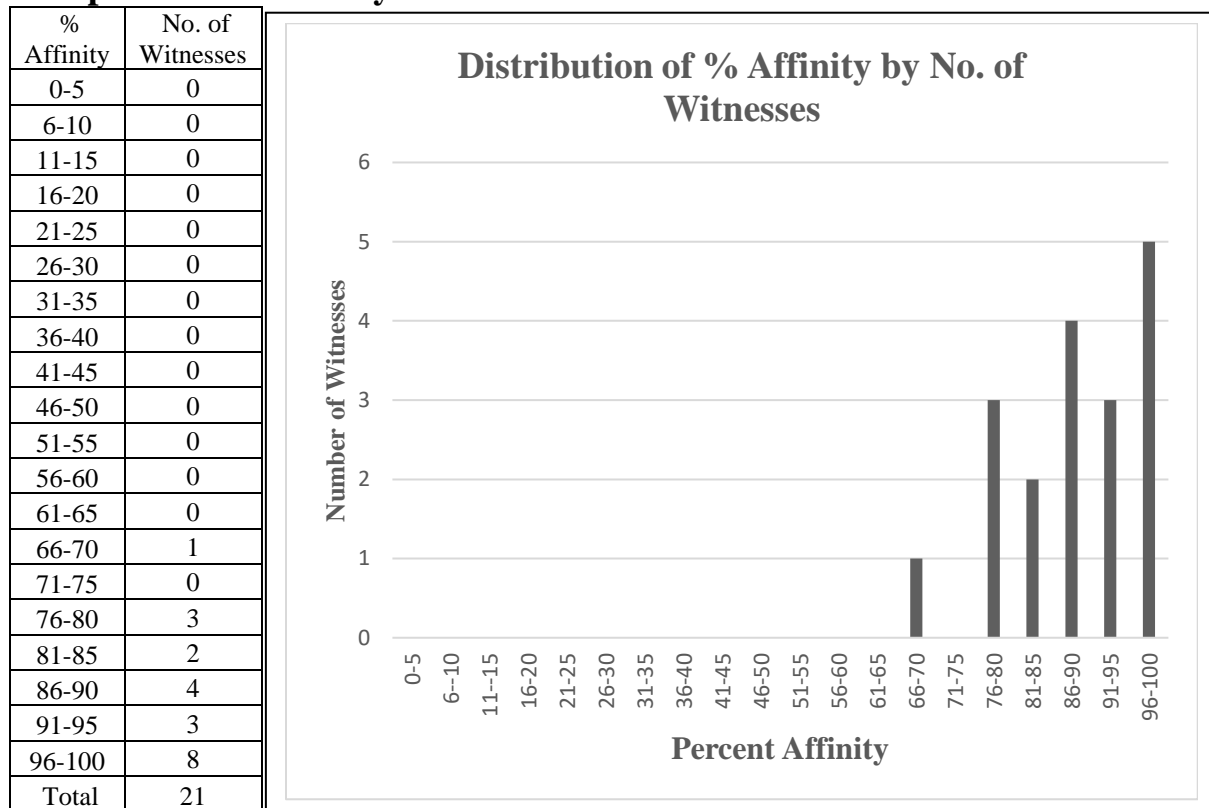
The evidence from Table 3.6 indicates that 11 (52%) of the 21 reconstructed exemplars[9] have a strong affinity (> 90%) with their primary parent exemplar, and all but four have an affinity greater than 80% with their parent. The presence of weak affinities is troubling because it questions

---

[8] Such exemplars do not contribute to the reconstruction of the tree diagram of the genealogical history of the witnesses, their affinity with their parent exemplar having no significance to the reconstruction process.

[9] The exemplars constructed just to account for same-generation mixture were not included in the study because they do not contribute to the construction of the genealogical tree.

the reality of any actual genealogical relationships. But the corresponding presence of sizeable sibling genes confirms that the given witness has a common ancestry with its alleged sisters, even though the relationship may be one of distant cousins; whatever the actual relationship may have been, within the collection of witnesses the relationship is the closest possible.

Global Inheritance Persistence

Another measure of the success of the software in reconstructing the genealogical history of the text of 1 Timothy is the persistence of the variants once they are initiated in the stemma of genealogical history. Ideally, once a variant is initiated, it will persist in all the descendants of the exemplar in which it was initiated. Table 3.7 presents the global statistics for inheritance persistence for the reconstructed stemma of 1 Timothy. The information is the accumulated sum of every witness' hereditary persistence. For each witness, the total number of variants it could inherit from all its ancestors was counted, also the number of those inheritable variants it actually inherited.[10]

Table 3.7
Global Inheritance Persistence

Global Total Number of Inheritable Variants:[11]	2,235
Global Number of Actually Inherited Variants:[12]	1,953
Global Number of Changed Variants:[13]	63
Global Number of Corrected Variants:[14]	219

This information indicates that for the 2,235 variants (the inheritable ones) initiated in all the ancestor exemplars in the stemma, 1,953 were persistent, being actually inherited by all their

---

[10] The hereditary persistence of a witness is the ratio of the number of inheritable variants to the number of actually inherited ones. The number of inheritable variants of a witness is the sum of the number of new variants initiated in all of its ancestor exemplars.

[11] An inheritable variant of a witness is one of its readings that was initiated in one of its ancestral exemplars.

[12] An inherited variant of a witness is one of its inheritable readings that persisted unaltered from its point of initiation through its intervening ancestors to the given witness itself.

[13] An inheritable variant of a witness is counted as changed if it was altered in an intervening ancestral exemplar, disrupting its hereditary persistence.

[14] An inheritable variant of a witness is counted as corrected if after being altered it is restored again to its initial reading.

respective descendants (87.38%), and 63 were changed (2.82%) somewhere in intervening ances-tors. Interestingly, 219 of them (9.80%) were changed and corrected back to the reading of the exemplar in which the variant originated. This information indicates the solution may be regarded as reasonably successful. The persistence of variant readings may be observed in the stemmas that trace the genealogical history of specific variants found in Chapter four.

Date of the Autograph

The date of the autograph and that of all other reconstructed exemplars are relative, not exact, being created by the date algorithm of the software which states that a parent exemplar is 50 years older than that of its oldest sibling daughter. When the dates diminish to below AD 150, the generation gap is reduced to 20 years, giving more room for activity in the first half of the second century and earlier. When the dates diminish below AD 100, the generation gap is reduced to five years. When the date diminishes below AD 50, the generation gap is reduced to one year. The date of the autograph (c. AD 75) is traced down through the Western recension to the second-generation church father Irenaeus (Ir^a% c. AD 150) through the following exemplars:

Autograph[0.00]<0>{AD 75}/0/0/0
   |-Ex-114#[0.87]<1>{AD 80}/11/11/2
      |-Ex-111[0.78]<2>{AD 100}/19/11/3
         |-Ir^a%[1.00]<3>{AD 150}/0/19/1

The witness of Clement is weak, having readings in only 2 places of variation, but having 100% agreement with its parent exemplar. So, the date of the autograph is acceptable based on that wit-ness.

Summary

Beginning with 96 extant witnesses, 50 of which were 80% or more complete, Lachmann-10 reconstructed 19 exemplars to account for the genealogical relationships among them. It con-structed a stemma that mapped the genealogical history of the text of 1 Timothy consisting of three main branches corresponding to the three traditional text types. Table 3.8 summarizes the follow-ing data for each branch:

      (1) The name of the first-generation recension
      (2) The date of the recension
      (3) The date of the latest witness in the branch, a measure of the text tradition's longevity
      (4) The affinity of the recension with the autographic text
      (5) The number of variants the recension differs from the autographic text
      (6) The number of exemplars created for the branch
      (7) The number of generations occurring in the branch

Table 3.8
Summary of Data

	Egyptian	Antiochan	Western
Recension	Ex-112#	Ex-113#	Ex-114#
Date	AD 95	AD 221	AD 80
Latest	AD 1400	AD 1450	AD 950
Affinity	94%	89%	87%
Difference	5	10	11
Exemplars	4	5	9
Generations	4	5	6

The Western text tradition has the earliest origin (AD 80), the third longest duration (AD 80 to 950), and the third best affinity with the autograph (87%).

Conclusions

The software does indeed reconstruct a genealogical history of the manuscripts of the Book of 1 Timothy, and of the other books of the New Testament as well. However, the results are not what was anticipated, based on earlier experiments with smaller books, smaller databases, and less sophisticated programs. I anticipated that the commonly accepted text traditions would emerge as independent witnesses to the autograph. Those text traditions did emerge, but they turned out to be not exactly Western, Alexandrian, Caesarean, and Byzantine, but rather Western, Egyptian, and Antiochan.

This concludes the discussion of the genealogical history of the witnesses to 1 Timothy. While the reconstruction of the genealogical history of witnesses depends on the quantitative affinity (consensus), genetic affinity (sibling genes), and the date of the witnesses, the genealogical history of variant readings depends on the consensus and inheritance of variants. The history of the variant readings of the text of 1 Timothy is discussed in Chapter Four.

CHAPTER 4
THE HISTORY OF THE TEXTUAL VARIANTS
IN 1 TIMOTHY

Chapter Three presents the genealogical history of the manuscripts[1] of the Greek text of the Book of 1 Timothy. That history is necessary before the genealogical history of an individual variant may be intelligently discussed, because the history of a textual variant is totally dependent upon the history of the manuscripts in which it occurs. The NA-27 Greek New Testament records 87 places of textual variation in the book of 1 Timothy and 191 variant readings. This averages out to a variableness index of 2.19 variants per place of variation—a relatively low value. Table 4.1 and its associated graph display the distribution of the number of variants per place of variation. It indicates that at 73 places of variation there were only two variant readings, at only three places there was four (1:16,1; 2:6,1; 6:7,1).

Table 4.1
Distribution of Number of
Variants per Place of
Variation

Number of variants	Number of Places of Variation
1	0
2	73
3	11
4	3
5	0
6	0
7	0
8	0
9	0
10	0
Total=	191

Distribution of No. of Variants per Place of Variation

---
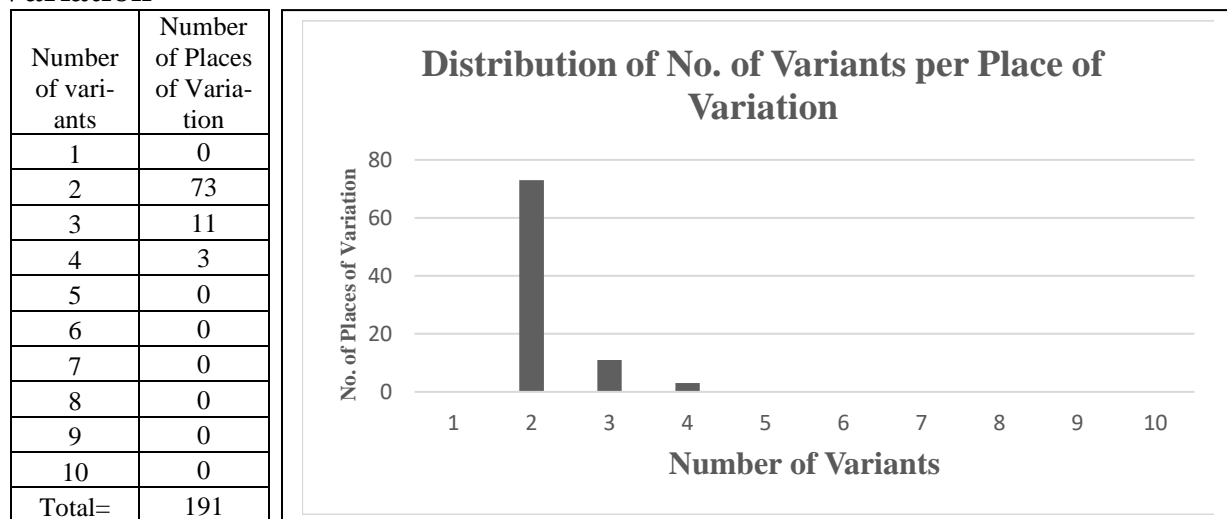
[1] Again, the term *manuscript* is used in its broader sense to include manuscripts, translations, quotations from church fathers, and reconstructed exemplars.

Initially the number 191 seems large when considering textual variations in a book of the Bible, but this number must be considered with respect to the total number of places where variation could occur. If the number of words in the Greek text of 1 Timothy (c. 1,597) is regarded as the number of places where variation could occur, and each variation is regarded as the equivalent of one word, then the text of 1 Timothy is 93% pure[2] before variations are even considered. Thus, variation occurs in only 7% of the text. In that small portion of the text 191 variants are recorded, but 87 of them are original readings, so only 104 are real variants. While this still seems like a large number, the genealogical software clearly identified all of them as non-original.

Types of Variants

Four basic types of textual variations occur in the text of 1 Timothy: (1) omissions, (2) alterations, (3) transpositions, and (4) additions. Table 4.2 lists the distribution of these types of variants in the 87 places of variation in the autographic text of the Book of 1 Timothy, and Table 4.3 lists their distribution with respect to all variations.

Table 4.2
Distribution of Variants by Type

Variation type	Number of Variants
omit a word	3
omit a phrase	2
Alternate word	47
Alternate words	9
Transposed words	1
Added word or phrase	25
Total	87

Table 4.3
Distribution of All Variants by Type

Variation Type	Number of Variants
omit a word	6
omit a phrase	4
Alternate word	104
Alternate words	25
Transposed words	2
Added word or phrase	50
Total	191

---

[2] $((1,492 - 93) \div 1,492) \times 100 = 93.76\%$.

Determining Exemplar Readings

Whenever the genealogical software creates a new exemplar as the parent of a group of sibling sister witnesses, at each place of variation, the reading of the exemplar is decided on the basis of five ordered rules:

(1) Majority consensus among all the immediate sibling children;

(2) if no majority, then postpone the decision until a sibling emerges for the exemplar currently being reconstructed, that sibling will have the inherited reading;[3]

(3) if, in the case of deciding the readings of the autograph, majority consensus fails, then accept the first variant (the NA-27 reading) if it is an option;

(4) if the first variant is not an option, then by default arbitrarily select the smallest variant number that is an option;[4]

(5) if witnesses are of different languages, then select the Greek reading.

Table 4.4 lists the number of times each of the above rules was used in the process of constructing the genealogical history of the text of 1 Timothy.

Table 4.4
Frequency of Exemplar Reading Rules

(1) by greatest probability	1,443
(2) by deferred ambiguity	113
(4) by default to NA-27	16
(5) by arbitrary choice	0
(6) by language deference	81
Total	1,653

The evidence indicates that the vast majority of exemplar readings (87.29%) were determined by "consensus among independent witnesses," and much of the remainder 6.84%) were determined by deferred ambiguity, while only 0.97% were deferred to the NA-27 reading, and 4.90% were determined by language deference.

---

[3] I call this practice *deferred ambiguity*. Since sibling witnesses rarely have scribal errors at the same place of variation, where the reading of one sibling is ambiguous—that is, it is uncertain which of two readings is the inherited reading and which is a newly initiated error—the other siblings will have the inherited reading..

[4] Next to the first variant—the NA-27 choice—the reading with the smaller variant number is usually supported by more witnesses than those with larger variant numbers. While this option is purely arbitrary, it turns out to be rarely significant for determining the readings of the autograph. For determining the readings of the autograph, the algorithm treats the exemplars of the last three branches to be constructed as siblings constituting the ancient independent witnesses.

Autographic Readings

The readings of the autographic text of 1 Timothy were determined on the basis of consensus among the three most ancient independent witnesses. For the Book of 1 Timothy, the exemplars of the three most ancient independent recensions were: (1) Exemplar Ex-112#, the recension from which the Egyptian text tradition was derived; (2) Exemplar Ex-113#, the recension from which the Antiochan text tradition was derived; and (3) Exemplar Ex-114#, the recension from which the Western text tradition was derived. Appendix D lists each of the 93 readings of the autograph together with its place of variation, the chapter and verse where it occurs, the reading of the text at that place, and the probability that the reading is original. Those readings lacking consensus were determined by default to the decision of the NA-27 editors' evaluation of internal evidence if that reading was among the available alternatives; otherwise, the next lowest variant number was selected by arbitrary choice. Table 4.5 lists the number of times each of the above rules was used in the process of determining the autographic readings of the text of 1 Timothy. The evidence indicates that 100% of the readings were determined by "consensus among ancient independent witnesses."

Table 4.5
Frequency of Exemplar Reading Rules

Number of Autographic variants decided by greatest probability	87	100%
Number of Autographic variants decided by Choice of NA27	0	0%
Number of Autographic variants decided by arbitrary choice	0	0%
Number of Autographic variants decided by Language deference	0	0%
Total	87	

Table 4.6 and its associated graph displays the distribution of the probability of the reconstructed autographic readings. Of the 87 readings, 61 had a probability of 1.0 (100%) and 26 had a probability of 0.67 (67%).

Table 4.6
Distribution of Autographic
Readings by Probability

Probability	Number of Readings
0.1	0
0.2	0
0.33	0
0.4	0
0.5	0
0.67	26
0.7	0
0.8	0
0.9	0
1.00	61

Distribution of Autographic Readings by Probability

(Bar chart: vertical axis "Number of Readings" from 0 to 80; horizontal axis "Probability x .10" labeled 1 through 10. Bars appear at 3 (small), 6 (about 30), and 10 (about 62).)
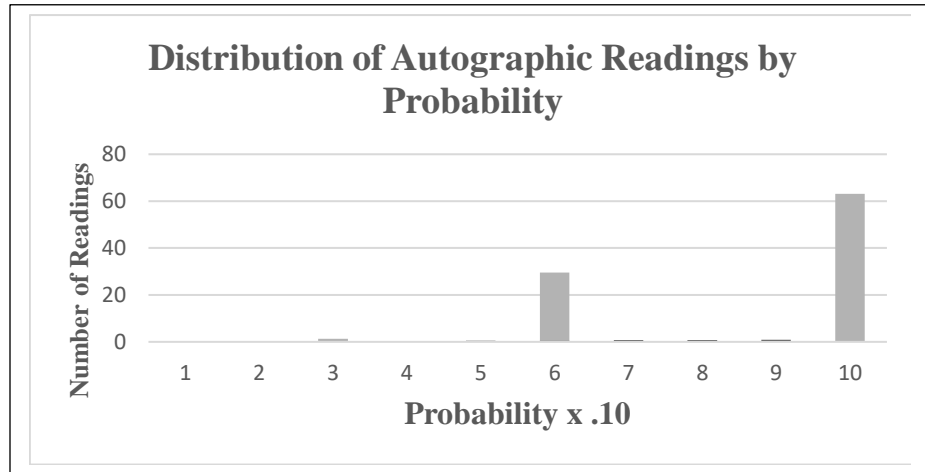
Agreement with NA-27

In the database used in this work, the first variant at any place of variation is the reading of the NA-27 text. The second and subsequent variants are the alternate readings listed in the database. Table 4.7 lists how often the various alternate readings were found to be original. The evidence indicates that the autographic text reconstructed by the genealogical software agrees with the text of NA-27 82 times or 94.25% of the time and differs from the NA-27 text 5 times or 5.75% of the time. Appendix E lists the 5 places where the Lachmann-10 text differs from that of NA-27.

Table 4.7
Frequency of Variants

Variant 1	82
Variant 2	4
Variant 3	1
Variant 4	0
Variant 5	0
Variant 6	0
Total	87

The Origin of the Variants

The software identifies the place of origin of every variant in the genealogical tree, accounting for every instance of a variant as being the result of genealogical descent, mixture, or

initiation—that is, the software finds the one and only exemplar or extant witness in the genealogical history where each variant originated.[5] Often, after the first initiation of a reading, it may have been introduced again in a later exemplar by means of mixture.

Exemplars Ex-116\$ through Ex-119\$ are children of the Autograph created by the software as sources for resolving same-generation mixture between the branches headed by the first-generation recensions, that is, for non-autographic readings that occur in more than one primary branch of the genealogical tree. These exemplars serve as virtual exemplars lost in the unrecoverable genealogical history between the Autograph and the assumed first-generation recensions. Of the 104 non-autographic variants, 103 are listed as originating in one of these virtual exemplars. Two possibilities exist for each of these variants: either it really originated only once in the earliest decades of unrecoverable history, or it originated independently in two or more major branches of the tree diagram of genealogical history; the latter case can be true for commonly occurring scribal errors, but not for the uncommon ones. Variants of the first kind are weakly distributed among the branches of the first-generation recensions and are of little genealogical significance individually; their distribution among the three most ancient recensions is weaker than that of their corresponding autographic reading.

Egyptian Recension

First generation Exemplar Ex-112# was the ancestral forefather of the Egyptian text tradition. This recension differs from the autograph by 5 secondary variants[6] among which it uniquely originated the following 2 variants peculiar to this entire text tradition:

Ex-112#	3.1	1:4,1.1	⌜ἐκζητησεις
Ex-112#	37.1	4:2,1.1	⌜κεκαυστηριασμενων

---

[5] The place a variant reading was initially introduced in genealogical history is determined by locating the witness containing the variant reading where the reading differs from that of its parent exemplar and the reading is not accounted for by mixture. Mixture fails when the reading does not occur in any witness in preceding generations.

[6] In this and other lists of variants herein, an exemplar enclosed in square brackets [] is the source of mixture for the associated variant. Variants are listed only by their reference: 1:4,1.1; 2:9,1.2[Ex-119\$]; 4:2,1.1; 5:16,2.2[Ex-119\$]; 5:18,1.2[Ex-119\$]; Count = 5.

Western Recension

First-generation Exemplar Ex-114# was the Western recension, being the text from which most of the Latin translations were made. It differs from the autographic text by 11 secondary variants,[7] among which it uniquely originated the following four variants peculiar to this entire text tradition:

Ex-114#	17.4	2:6,1.4	οὗ τ. μ.
Ex-114#	18.2	2:6,2.2	δοθη
Ex-114#	56.2	5:20,1.2	δε
Ex-114#	70.2	6:9,1.2	του διαβολου

Antiochan Recension

Exemplar Ex-113# was the Antiochan recension. It differs from the autographic text by 10 secondary variants,[8] among which it uniquely originated the following variant peculiar to this entire text tradition:

Ex-113#	11.3	1:16,1.3	2

Tracing Variant History

For various reasons, it may be of interest to trace the history of the genealogical heritage of the alternate readings at particular places of variation. For each variant at the desired place, one may want to see where it originated in genealogical history and how it was subsequently distributed by genetic inheritance. Upon request, software program Lachmann-10 displays the genealogical history of the variants at any selected place of variation. It constructs the historical tree diagram (like the one in Appendix C) and displays on the monitor screen the generation and index number of the variant contained in each and every witness. The following section presents typical examples of possible studies of interest, using the tree diagram displayed in Figure 3.1 in Chapter Three. Colors are used to mark the genealogical descent of the alternate readings: green marks the genealogical descent of the autographic reading, and other colors mark that of the alternate readings there.

---

[7] 1:4,1.1; 2:9,1.2[Ex-119$]; 4:2,1.1; 5:16,2.2[Ex-119$]; 5:18,1.2[Ex-119$]; Count = 5.

[8] 1:16,1.3; 2:8,1.2[Ex-119$]; 2:9,2.2[Ex-119$]; 3:14,1.2[Ex-119$]; 3:14,2.2[Ex-119$]; 3:16,2.3[Ex-119$]; 4:10,2.2[Ex-119$]; 5:21,1.3[Ex-119$]; 5:25,2.2[Ex-119$]; 6:21,1.2[Ex-119$]; Count = 10.

Variants of Textual Interest

The genealogical history of some variants is more interesting than that of others because of their significance for translation. For example, significant words are missing in some witnesses (5:16,1; 6:5,2). Also some places of variation have multiple options widely distributed among the witnesses (1:16,1); some autographic readings differ from the text of NA-27, and lack superior consensus. The genealogical history may help to decide which option is more likely original.

Missing Words in 5:16,1

1 Timothy 5:16 reads: "If any believing man or woman has widows, let them relieve them, and do not let the church be burdened, that it may relieve those who are really widows." Some witnesses lack the phrase "believing man or." The variants are:

(1) ομιτ—omit

(2) πιστος ἤ—believing man or

Figure 4.1 displays the distribution of the variants throughout genealogical history.

Figure 4.1
Distribution of 5:16,1
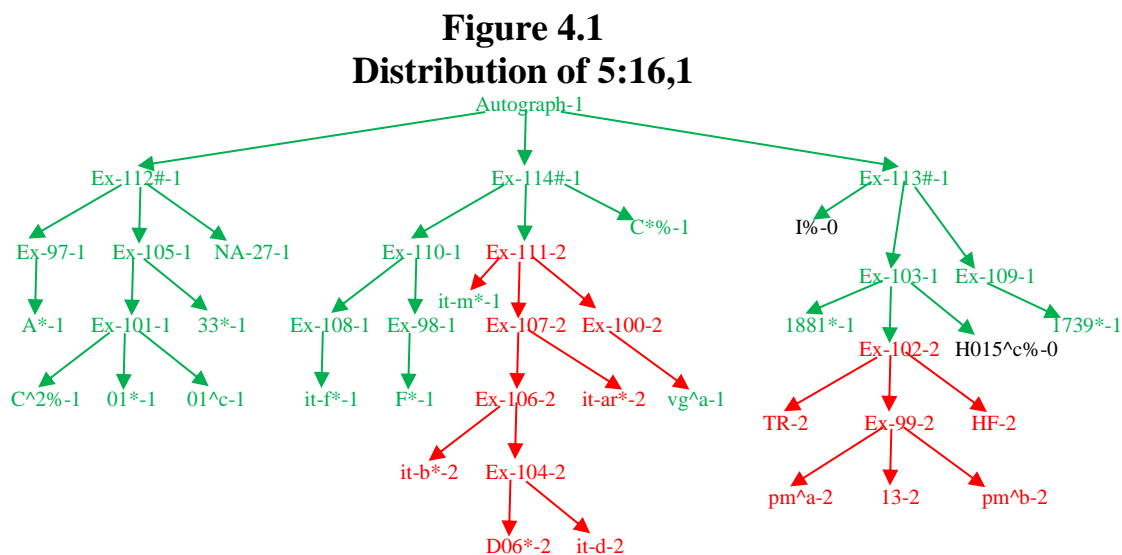
Variant 1 (omit "believing man or") has the consensus of all three first-generation recensions: Exemplar Ex-112#, the recension from which the Egyptian text tradition was derived, and Exemplar Ex-114#, the recension from which the Western text tradition was derived, and Exemplar Ex-113#, the recension from which the Antiochan text tradition was derived; it was selected as the autographic reading on this basis with a probability of 100%. It has the support of all the witnesses in the Egyptian text tradition, all the witnesses of the Western text tradition except for

those in the branch headed by second-generation Exemplar Ex-111, and all the witnesses of the Antiochan text tradition except for those in the branch headed by third-generation Exemplar Ex-102. It occurs independently as singularities in MSS vg^a and it-m*. It has the greatest antiquity,[9] the broadest distribution,[10] and good persistence.

Variant 2 ("believing man or") was first initiated in the Western text tradition in the branch headed by second-generation Exemplar Ex-111, after which it persisted throughout the genealogical history of that branch except for MSS vg^a and it-m*. It was then initiated by mixture in the Antiochan text tradition in the branch headed by third-generation Exemplar Ex-102, after which it persisted throughout the genealogical history of that branch. This reading lacks antiquity and sufficient distribution, but has persistence once initiated.

Missing Words in 6:5,2

1 Timothy 6:5 reads: "useless wranglings of men of corrupt minds and destitute of the truth, who suppose that godliness is a *means of* gain. From such withdraw yourself." Some witnesses lack the sentence "From such withdraw yourself." The variants are:

(1) ομιτ—omit

(2) αφιστασο απο των τοιουτων—from such withdraw yourself

Figure 4.2 displays the distribution of the variants throughout genealogical history. Variant 1 (omit "from such withdraw yourself") has the consensus of all three of the first-generation recensions: Exemplar Ex-112#, the source of the Egyptian text tradition, Exemplar Ex-113#, the source of the Antiochan text tradition, and Exemplar Ex-114#, the source of the Western text tradition. It was selected as the autographic reading on this basis with a probability of 1.00 (100%). It has the support of all the witnesses in the Egyptian text tradition, all the witnesses of the Western text tradition except those in the sub-branch headed by third-generation Exemplar Ex-100. It also has the support of the Antiochan text tradition except for those in the branch headed by third-generation Exemplar Ex-102. It also occurs independently as singularities in MSS 6, vg^a, and vg^ww (some not shown). It has the greatest antiquity, broadest distribution, and excellent persistence.

---

[9] Antiquity is the characteristic of a reading being older than the witness in which it occurs. See the glossary of terms.

[10] Distribution is the characteristic of a reading occurring in more than one text tradition. An original reading occurs in more than one first-generation exemplar. See the glossary of terms.

Figure 4.2
Distribution of 6:5,2
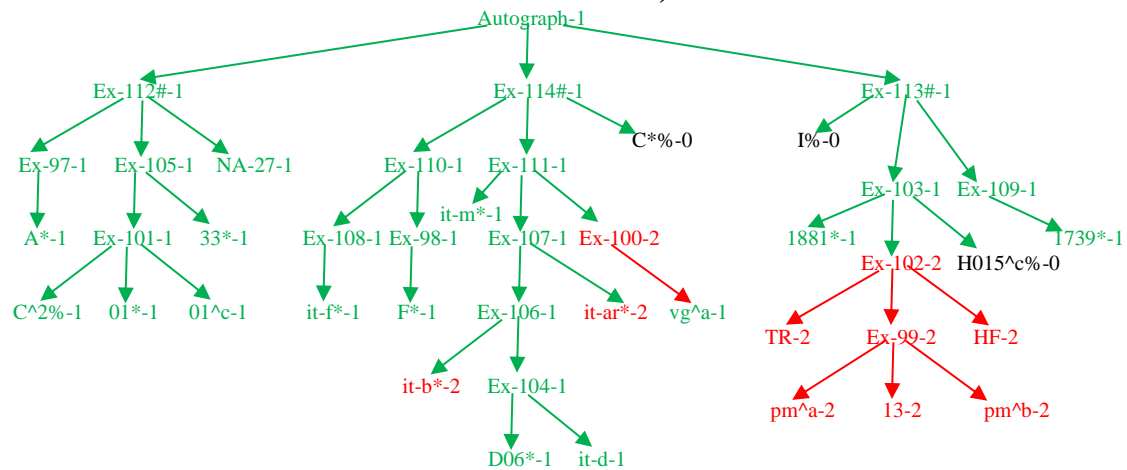
Variant 2 ("from such withdraw yourself") was first initiated in third-generation Exemplar Ex-102 in the Antiochan text tradition, after which it persisted in that branch throughout its genealogical history. It was then initiated by mixture in the Western text tradition in third-generation Exemplar Ex-100, after which it persisted in that branch throughout its genealogical history except for MSS 6, vg^a, and vg^ww. It lacks antiquity and distribution.

Multiple Variants in 1:16,1

1 Timothy 1:16 reads: "However, for this reason I obtained mercy, that in me first Jesus Christ might show all longsuffering, as a pattern to those who are going to believe on Him for everlasting life." The words of the phrase "Jesus Christ" have four different ordered arrangements among the various witnesses. They are:

(1) Χριστος Ἰησους—Christ Jesus
(2) Ιησους Χριστος—Jesus Christ
(3) Ιησους—Jesus
(4) Ιησους ο Χριστος—Jesus the Christ

Figure 4.3 displays the genealogical distribution of these variants. Variant 1 (Christ Jesus) has the consensus of two of the first-generation recensions: Exemplar Ex-112#, the recension from which the Egyptian text tradition was derived, and Exemplar Ex-114#, the recension from which the Western text tradition was derived. it was selected as the autographic reading on this basis with a probability of 67%. It has the support of all the witnesses in the Egyptian text tradition except for those in the branch headed by third-generation Exemplar Ex-101. It has the support of all the

witnesses of the Western text tradition except for those in the sub-branch headed by second-generation Exemplar Ex-110, together with independent singularities it-ar* and vg^b (not shown). It has the greatest antiquity, the broadest distribution, and excellent persistence.

Figure 4.3
Distribution of 3:2,1
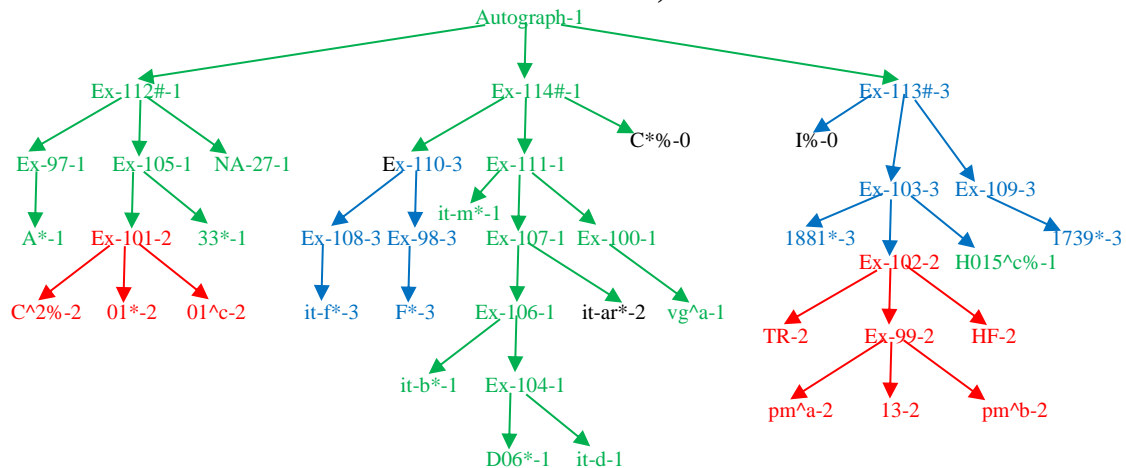
Variant 2 (Jesus Christ) was first initiated in the Egyptian text tradition in the branch headed by third-generation Exemplar Ex-101, after which it persisted throughout the history of that branch. It was also initiated by mixture into the Antiochan text tradition in third-generation Exemplar Ex-102, after which it persisted throughout the history of that branch. It also occurs independently as singularities in MSS it-ar* and vg^b (not shown). It lacks antiquity and significant distribution.

Variant 3 (Jesus) was first initiated in first-generation Exemplar Ex-113# of the Antiochan text tradition, after which it persisted in the history of that branch until the third generation when it was modified to "Jesus Christ (variant 2). It also was initiate by mixture in the Western text tradition in the sub-branch headed by second-generation Exemplar Ex-110, after which it persisted throughout the history of that branch. It lacks antiquity and significant distribution.

Variant 4 (Jesus the Christ) occurs independently as a singularity in MS 614, a descendant of Exemplar Ex-99 (not shown). This reading has no genealogical possibility of being original.

Not NA-27 at 1:4,1

Of the 87 places of variation in the Book of 1 Timothy, Lachmann-10 found 5 autographic readings that differ from that of NA-27.[11] One instance occurs in 1:4,1 where the probability is 0.67 (67%). 1 Timothy 1:4 reads: "nor give heed to fables and endless genealogies, which cause disputes rather than godly edification which is in faith." There are two variant readings here for the word translated "disputes." They are:

(1) ἐκζητησεις—debates
(2) ζητησεις—disputes

Figure 4.4 displays the distribution of these variants throughout genealogical history.

Figure 4.4
Distribution of 1:4,1
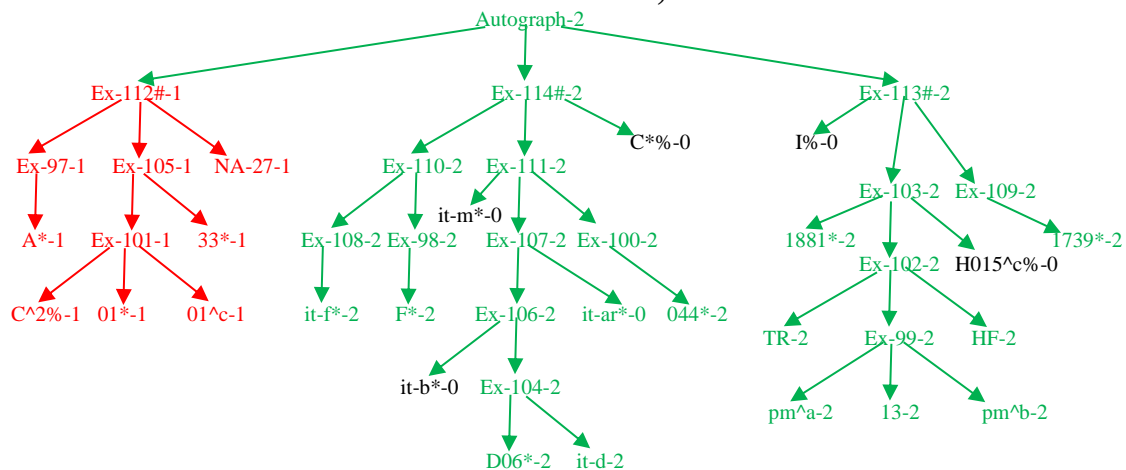
In this case, variant 2 (disputes) has the consensus of two of the three first-generation recensions: Exemplar Ex-113#, the recension from which the Antiochan text tradition was derived, and Exemplar Ex-114#, the recension from which the Western text tradition was derived. It was selected as the autographic reading on this basis with a probability of 67%. It has the support of all the witnesses in the Antiochan text tradition and of all the witnesses of the Western text tradition. It has the greatest antiquity, the broadest distribution, and excellent persistence.

Variant 1 (debates) was first initiated in the Egyptian text tradition headed in first-generation Exemplar Ex-112#, after which it persisted throughout the history of that branch. It lacks antiquity and distribution, but it has persistence once initiated.

---

[11] 1:4,1; 4:2,1; 5:21,2; 6:13,1; and 6:17,2.

Not NA-27 at 6:17,2

Another instance where Lachmann-10 found an autographic reading that differ from that of NA-27 occurs in 6:17,2 where the probability is 0.67 (67%). 1 Timothy 6:17 reads: "Command those who are rich in this present age not to be haughty, nor to trust in uncertain riches but in the living God, who gives us richly all things to enjoy." Some witnesses read "in the living God" while others read "on the living God." There are three variant readings:

(1) ἐπι—on
(2) επι τω—on the
(3) εν τω—in the

Figure 4.5 displays the distribution of these variants throughout genealogical history.

Figure 4.5
Distribution of 6:17,2
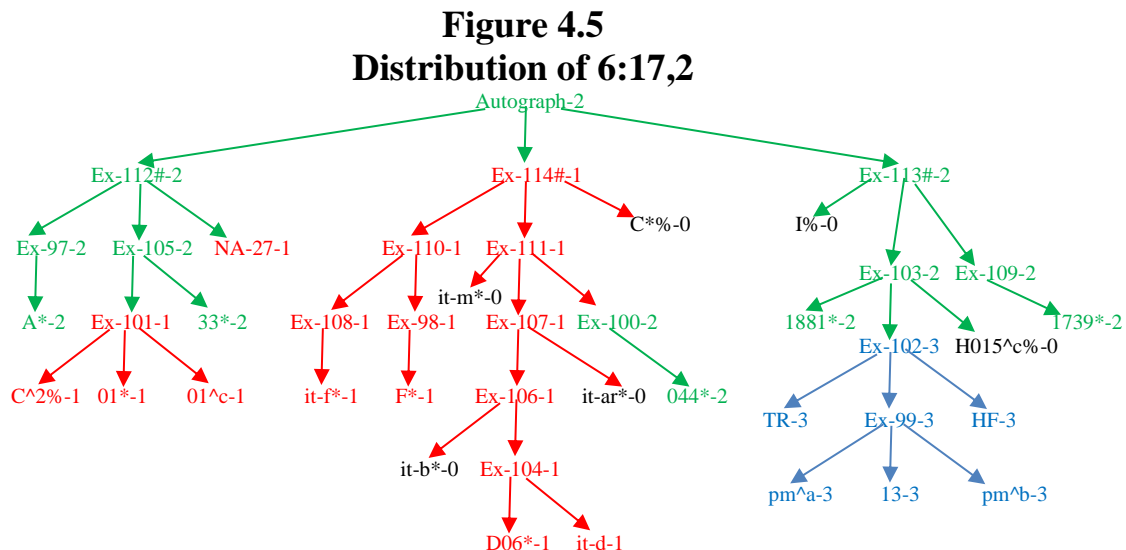
In this case also, variant 2 (on the) has the consensus of two of the three first-generation recensions: Exemplar Ex-113#, the recension from which the Antiochan text tradition was derived, and Exemplar Ex-112#, the recension from which the Egyptian text tradition was derived. It was selected as the autographic reading on this basis with a probability of 67%. It has the support of all the witnesses in the Antiochan text tradition except for those in the branch headed by third-generation Exemplar Ex-102. It has the support of all the witnesses in the Egyptian text tradition except for those in the branch headed by third-generation Exemplar Ex-101. In addition, it was initiated by mixture in the Western text tradition in third-generation Exemplar Ex-100. Also it occurs independently as singularities in MSS 6, 629*, and Did^a%. It has the greatest antiquity, the broadest distribution, and limited persistence.

Variant 1 (on) was first initiated in the Western text tradition headed in first-generation Exemplar Ex-114#, after which it persisted throughout the history of that branch, except for the witnesses in the sub-branch headed by third-generation Exemplar Ex-100. It was than initiated by mixture in the Egyptian text tradition in third-generation Exemplar Ex-101, after which it persisted throughout the history of that branch. Also it occurs independently as singularities in MSS NA-27 and Or^a% (not shown). It lacks antiquity and sufficient distribution, but it has persistence once initiated.

Variant 3 (in the) was first initiated in the Antiochan text tradition in the third-generation Exemplar Ex-102, the likely source of the Byzantine text tradition, after which it persisted throughout the history of that branch. It lacks antiquity and sufficient distribution, but it has persistence once initiated.

Variants of Theological Interest

Although most textual variations have little or no practical theological significance, a number are found in theological discussions. For example, Bart D. Ehrman argued that the earliest form of the Greek New Testament was less "orthodox" than the canonical form that emerged at the end of the "proto-orthodox" debates that culminated in the dominance of the "orthodox" parties in the fourth century. He wrote:

> It was within this milieu of controversy that scribes sometimes changed their scriptural texts to make them *say* what they were already known to *mean*. In the technical parlance of textual criticism—which I retain for its significant ironies—these scribes "corrupted" their texts for theological reasons.[12]

He is right about the ante-Nicene debates over the various heretical issues of the time and the emerging dominance of the orthodox parties, but his thesis that the doctrine of the apostles and first-century church, and the earliest form of the New Testament text were less "orthodox" is purely hypothetical. Of course, he provided what he regards as evidence. However, my own evaluation of the evidence he presented to establish his thesis indicates that the readings supported by the "consensus of ancient independent witnesses" are genuinely orthodox as normally interpreted, and that his "orthodox corruptions"—those intended to make orthodox doctrine more explicit—are found only in peripheral sources having little chance of being textually authoritative. The same may be said of any alleged "unorthodox" variants. So, I must conclude that what Ehrman really

---

[12] Bart D. Ehrman, *The Orthodox Corruption of Scripture* (New York: Oxford University Press, 1993), xii; italics his.

means is that the traditional canons of textual criticism are of no value for understanding the early text, that the "canonical text" of the New Testament is an "orthodox corruption," and that the original text, if there ever was one original, is forever lost. The one thing he was sure of according to his "socio-historical" research is that the earliest text was not "orthodox" and the current form of the text (i.e., the NA-28 text) is a corruption of the original text, being altered by orthodox scribes for theological reasons.

Ehrman has a problem, however, because, by his own admission, he does not know what the original text was. So how can he know it was corrupted? Also, evidently he does not know, or at least he rejects, the fact that each existing witness has within its variants the history of its genealogical descent from the original text, and the fact that genealogical principles reconstruct the original text back to the first century, the time of the apostles. So, the reconstructed text is a first century event, not a fourth century one, and it is theologically orthodox, not a corruption. The following is some of the evidence he presented regarding doctrine in 1 Timothy:

Christ Jesus at 1:1

1 Timothy 1:1 reads: "Paul, an apostle of Jesus Christ, by the commandment of God our Savior and the Lord Jesus Christ, our hope." Concerning the deity of Christ in 1 Timothy 1:1, Ehrman wrote:

> Comparable changes also occur sporadically throughout the manuscript tradition of the Pastoral Epistles. Thus, in the poem of 1 Timothy, several Greek and versional witnesses change the "command of God our savior and Christ Jesus our hope" (1:1) to the "command of God our savior, (i.e.) Jesus Christ our hope."[13]

Ehrman was right that an alteration was made in a few witnesses to identify Jesus as God, but it did not alter the canonical text; the NA-27 editors regarded the evidence supporting the alternate reading to not be adequate enough to include in the textual apparatus. The reading had no effect on the canonical text.

Who or God at 3:16,2

1 Timothy 3:16 reads: "And without controversy great is the mystery of godliness: God was manifested in the flesh, Justified in the Spirit, Seen by angels, Preached among the Gentiles, Believed on in the world, Received up in glory." Regarding this passage, Ehrman asserted:

> We begin with a particularly intriguing textual problem from the Pastoral Epistles. The author of 1 Timothy is almost certainly quoting an earlier creed when he explicates "the mystery of

---

[13] Ehrman, p. 87.

our religion" . . . the striking syntactical parallelism of its six clauses (each formed with an aorist passive verb followed by a nominal construction in the dative), and the dependence of each clause on the introductory relative pronoun. Precisely here, however, is the textual problem; for the relative has been subjected to alteration in the course of the text's transmission.[14]

There are three alternative readings here:

(1) ος—who

(2) ὅ—which

(3) θεος—God

Ehrman concluded:

That the reading θεος cannot be original is shown both by the character the manuscript attestation—the earliest and superior manuscripts all support the relative—and by the fact that ancient creedal fragments typically begin precisely in this way, that is, with a relative pronoun. The change must have been made fairly early, at least during the third century, given its widespread attestation from the fourth century on. It can therefore best be explained as an anti-adoptionistic corruption that stresses the deity of Christ.[15]

Figure 4.6 displays the distribution of these variants throughout genealogical history.

Figure 4.6
Distribution of 3:16,2
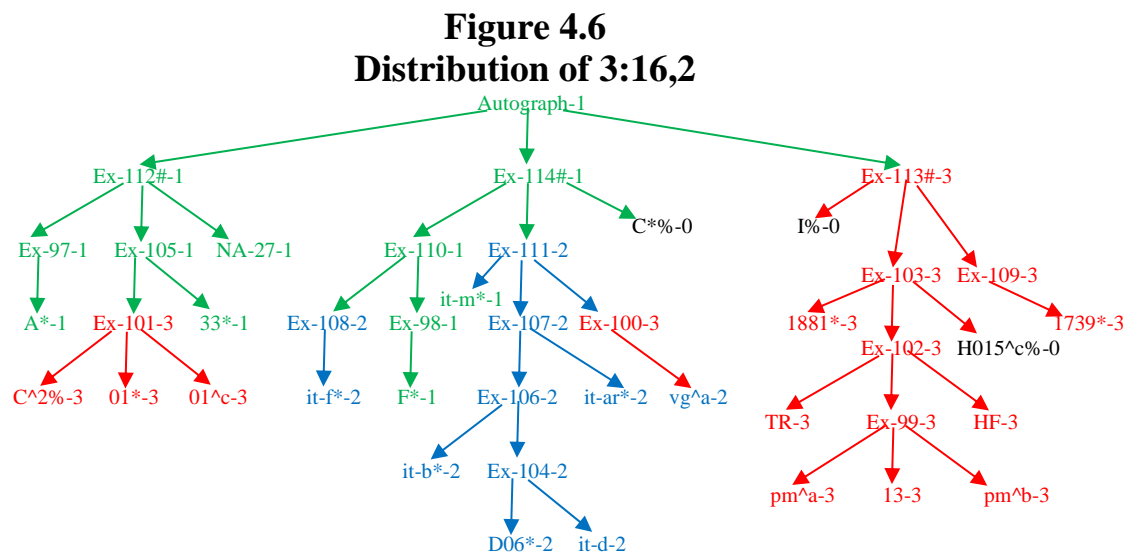
Variant 1 (who) has the consensus of two of the three first-generation recensions: Exemplar Ex-112#, the recension from which the Egyptian text tradition was derived, and Exemplar Ex-114#, the recension from which the Western text tradition was derived. It was selected as the autographic reading on this basis with a probability of 67%. It has the support of all the witnesses in

---

[14] Ehrman, pp. 77-78.

[15] Ehrman, p. 78.

the Egyptian text tradition except for those in the branch headed by third-generation Exemplar Ex-101. It has the support of all the witnesses in the Western text tradition except for those in the branch headed by second-generation Exemplar Ex-111, and for those in the sub-branch headed by third-generation Exemplar Ex-100, and for those in the sub-branch headed by third-generation Exemplar Ex-108. In addition, it occurs independently as singularities in MSS 01^2%, D06^c, D06^2, it-m*, and sy^h%. It has the greatest antiquity, the broadest distribution, and limited persistence.

Variant 2 (which) was first initiated in the Western text tradition in second-generation Exemplar Ex-111, after which it persisted throughout the history of that branch, except for the witnesses in the sub-branch headed by third-generation Exemplar Ex-100. It was than initiated by mixture in third-generation Exemplar Ex-108, after which it persisted throughout the history of that branch. Also it occurs independently as singularities in MSS vg^a and vg^ww. It lacks antiquity and sufficient distribution, but it has persistence once initiated.

Variant 3 (God) was first initiated in the Antiochan text tradition in first-generation Exemplar Ex-113#, after which it persisted throughout the history of that branch. It was than initiated by mixture in the Egyptian text tradition in third-generation Exemplar Ex-101, after which it persisted throughout the history of that branch. It was also initiated by mixture in the Western text tradition in third-generation Exemplar Ex-100, after which it persisted throughout the history of that branch. Also it occurs independently as a singularity in MS A^c. It lacks antiquity and sufficient distribution, but it has persistence once initiated.

Ehrman was right; there was an orthodox clarification in the textual history of this place of variation, and it did affect reformation translations; but it did not affect the canonical text (NA-27) by making it more orthodox. The canonical text is orthodox regarding the deity of Christ; there are at least six passages where it unambiguously refers to Jesus Christ as God: John 1:1, 18; 20:28; Titus 2:13; Heb. 1:8; 2 Pet. 1:1; and 1 John 5:20.

Other Variants of Theological Interest

The following is a discussion of some other passages in 1 Timothy where doctrinal issues may seem significant to some readers.

Omit Wise 1:17,2

1 Timothy 1:17 reads: "Now to the King eternal, immortal, invisible, to God who alone is wise, *be* honor and glory forever and ever. Amen." Some witnesses have the word "wise" and some do not. The variants are:

(1) oμιτ—omit

(2) σoφω—wise

Figure 4.7 displays the distribution of these variants throughout genealogical history. Variant 1 (omit "wise") has the consensus of all three first-generation recensions: Exemplar Ex-112#, the recension from which the Egyptian text tradition was derived, and Exemplar Ex-114#, the recension from which the Western text tradition was derived, and Exemplar Ex-113#, the recension from which the Antiochan text tradition was derived; it was selected as the autographic reading on this basis with a probability of 100%. It has the support of all the witnesses in the Egyptian text tradition, all the witnesses of the Western text tradition except for those in the branch headed by third-generation Exemplar Ex-100, and all the witnesses of the Antiochan text tradition except for those in the branch headed by second-generation Exemplar Ex-103. It occurs independently as singularities in MSS vg^a, vg^b, and vg^ww (not shown). It has the greatest antiquity, the broadest distribution, and good persistence.

Figure 4.7
Distribution of 1:17,2
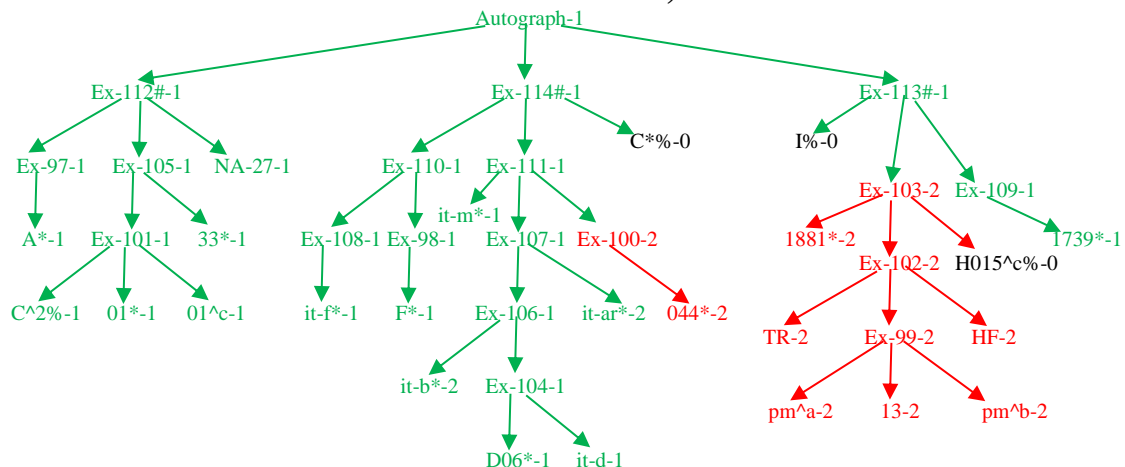
Variant 2 (wise) was first initiated in second-generation Exemplar Ex-103 in the Antiochan text tradition, after which it persisted for two generations. It was then initiated by mixture in third-generation Exemplar Ex-100 of the Western text tradition after which it persisted throughout the

remaining history of that branch. It also occurs as a singularity in MS Epiph^a% (not shown). This variant lacks antiquity and sufficient distribution, but is persistent once initiated.

Omit In Christ 2:7,2

1 Timothy 2:7 reads: "for which I was appointed a preacher and an apostle—I am speaking the truth in Christ *and* not lying—a teacher of the Gentiles in faith and truth." In this passage some witnesses contain the words "in Christ" and some do not. There are two variant readings here:

(1) Oμιτ—omit
(2) εν Χριστω—in Christ

Figure 4.8 displays the distribution of these variants throughout genealogical history. Variant 1 (omit "in Christ") has the consensus of all three first-generation recensions: Exemplar Ex-112#, the recension from which the Egyptian text tradition was derived, and Exemplar Ex-114#, the recension from which the Western text tradition was derived, and Exemplar Ex-113#, the recension from which the Antiochan text tradition was derived; it was selected as the autographic reading on this basis with a probability of 100%. It has the support of all the witnesses in the Egyptian text tradition, except for the witness in the branch headed by second-generation Exemplar Ex-105; it has the support of all the witnesses of the Western text tradition, and all the witnesses of the Antiochan text tradition except for those in the branch headed by third-generation Exemplar Ex-102. It occurs independently as singularities in MSS 01^2%, 6, 629*, and sy^h%. It has the greatest antiquity, the broadest distribution, and good persistence.

Figure 4.8
Distribution of 2:7,2
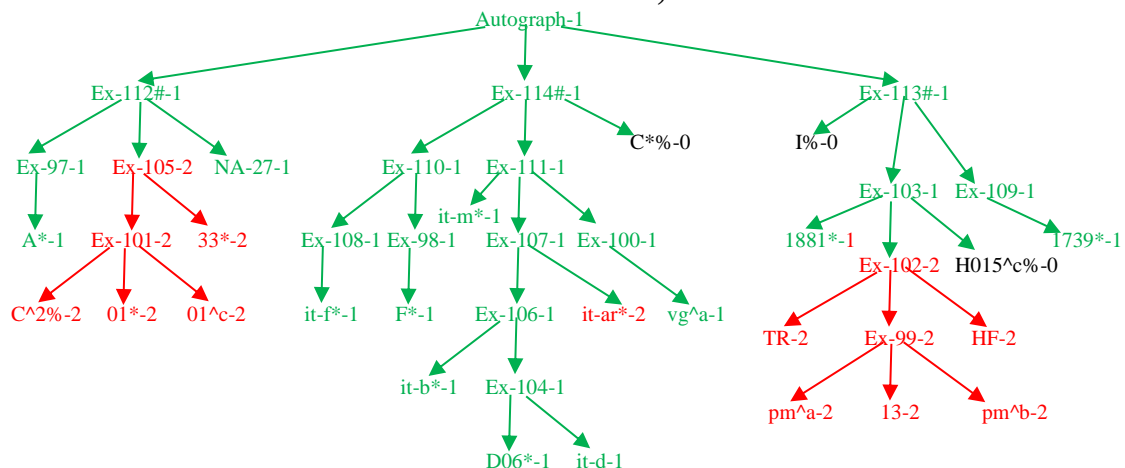
Variant 2 (in Christ) was first initiated in second-generation Exemplar Ex-105 in the Egyptian text tradition, after which it persisted throughout the remaining history of that branch. It was then initiated by mixture in third-generation Exemplar Ex-102 of the Antiochan text tradition, after which it persisted throughout the remaining history of that branch. It also occurs independently as singularities in MSS H015*%, H015^c%, vg^b, and it-ar* (some not shown). This variant lacks antiquity and sufficient distribution, but is persistent once initiated.

Omit Living 6:17,3

1 Timothy 6:17 reads: "Command those who are rich in this present age not to be haughty, nor to trust in uncertain riches but in the living God, who gives us richly all things to enjoy." In this passage some witnesses contain the words "the living" and some do not. There are two variant readings here:

(1) oμιτ—omit

(2) τω ζωντι—the living

Figure 4.9 displays the distribution of these variants throughout genealogical history.

Figure 4.9
Distribution of 6:17,3
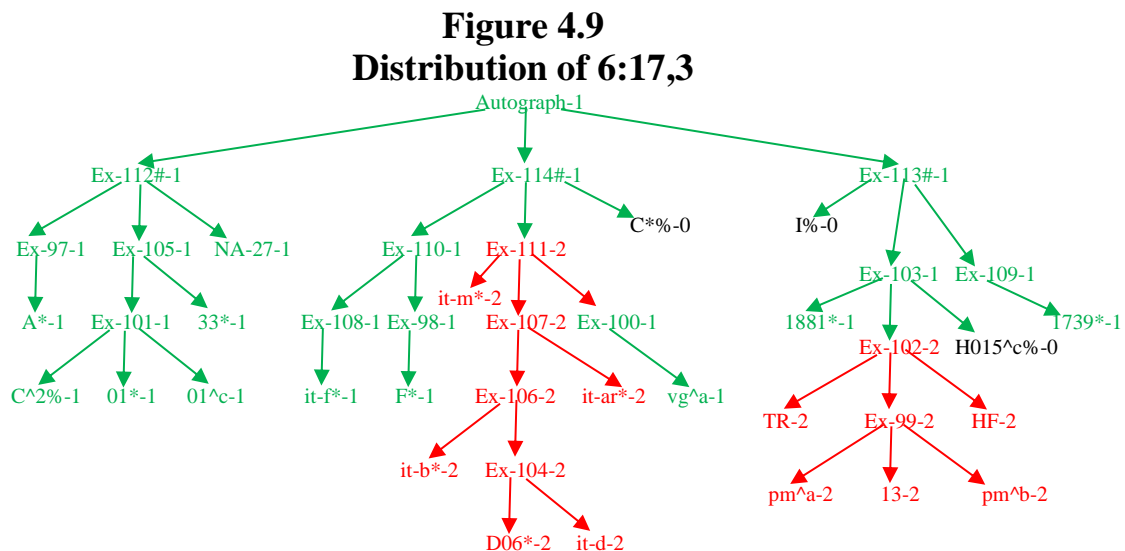
Variant 1 (omit "the living") has the consensus of all three first-generation recensions: Exemplar Ex-112#, the recension from which the Egyptian text tradition was derived, and Exemplar Ex-114#, the recension from which the Western text tradition was derived, and Exemplar Ex-113#, the recension from which the Antiochan text tradition was derived; it was selected as the autographic reading on this basis with a probability of 100%. It has the support of all the witnesses

in the Egyptian text tradition; it has the support of all the witnesses of the Western text tradition, except for those in the branch headed by second-generation Exemplar Ex-111; and it has the support of all the witnesses of the Antiochan text tradition except for those in the branch headed by third-generation Exemplar Ex-102. It occurs independently as singularities in MSS 6, and vg^st. It has the greatest antiquity, the broadest distribution, and good persistence.

Variant 2 (the living) was first initiated in second-generation Exemplar Ex-111 in the Western text tradition, after which it persisted throughout the remaining history of that branch. It was then initiated by mixture in third-generation Exemplar Ex-102 of the Antiochan text tradition, after which it persisted throughout the remaining history of that branch. It also occurs independently as singularities in MSS it-m^c% and bo^b% (some not shown). This variant lacks antiquity and sufficient distribution, but is persistent once initiated.

Not NA-27 at 4:2,1

1 Timothy 4:2 reads: "speaking lies in hypocrisy, having their own conscience seared with a hot iron." In this passage there are three alternate spellings for the word translated "seared with a hot iron":

(1) κεκαυστηριασμενων

(2) και καυτηριασμενων

(3) κεκαυτηριασμενων

Figure 4.10 displays the distribution of these variants throughout genealogical history.

Figure 4.10
Distribution of 4:2,1
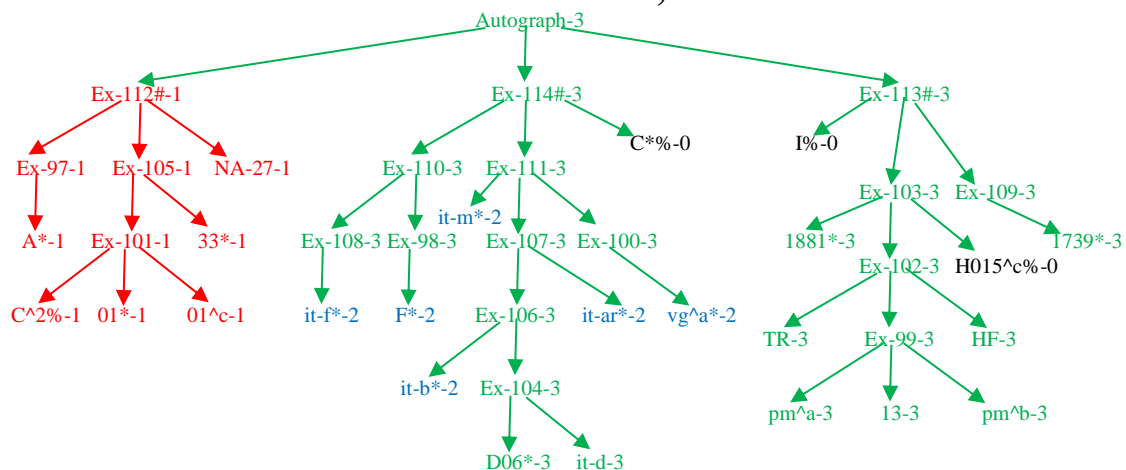
Variant 3 ("κεκαυτηριασμενων") has the consensus of two of the three first-generation recensions: Exemplar Ex-114#, the recension from which the Western text tradition was derived, and Exemplar Ex-113#, the recension from which the Antiochan text tradition was derived; it was selected as the autographic reading on this basis with a probability of 67%. It has the support of all the witnesses in the Antiochan text tradition, and that of all the witnesses of the Western text tradition, except for the genetically independent singularities that have variant 2 (see below). It has the greatest antiquity, the broadest distribution, and excellent persistence.

Variant 1 (κεκαυστηριασμενων) was first initiated in the first-generation Exemplar Ex-112# the source of the Egyptian text tradition, after which it persisted throughout the remaining history of that branch. This variant lacks antiquity and distribution, but it has persistence once initiated.

Variant 2 (και καυτηριασμενων) occurs only in genetically independent Western singularities: MSS 0241%, F*, vg^a, vg^b, vg^cl, vg^s%, vg^st, vg^ww, it-ar*, it-b*, it-f*, it-m*, and sy^p% (some not shown). As singularities, they have neither heredity, antiquity, distribution, nor persistence. Although they are in the same text tradition, they lack mutual genetic connection.

## Faith, Knowledge or Spirit at 2:7,3

1 Timothy 2:7 reads: "for which I was appointed a preacher and an apostle—I am speaking the truth in Christ *and* not lying—a teacher of the Gentiles in faith and truth." In this passage some witnesses contain the word "faith," some have "knowledge" and some have "spirit." There are three variant readings here:

    (1) πιστει—faith
    (2) γνωσει—knowledge
    (3) πνευματι—spirit

Figure 4.11 displays the distribution of the variants throughout genealogical history. Variant 1 (faith) has the consensus of all three of the first-generation recensions: Exemplar Ex-112#, the source of the Egyptian text tradition, Exemplar Ex-113#, the source of the Antiochan text tradition, and Exemplar Ex-114#, the source of the Western text tradition. It was selected as the autographic reading on this basis with a probability of 1.00 (100%). It has the support of all the witnesses in the Antiochan text tradition, and all the witnesses of the Western text tradition. It also has the support of the Egyptian text tradition except for those in the sub-branches headed by second-generation Exemplar Ex-97 and third-generation Exemplar Ex-101. It has the greatest antiquity, broadest distribution, and excellent persistence.

Figure 4.11
Distribution of 2:7,3
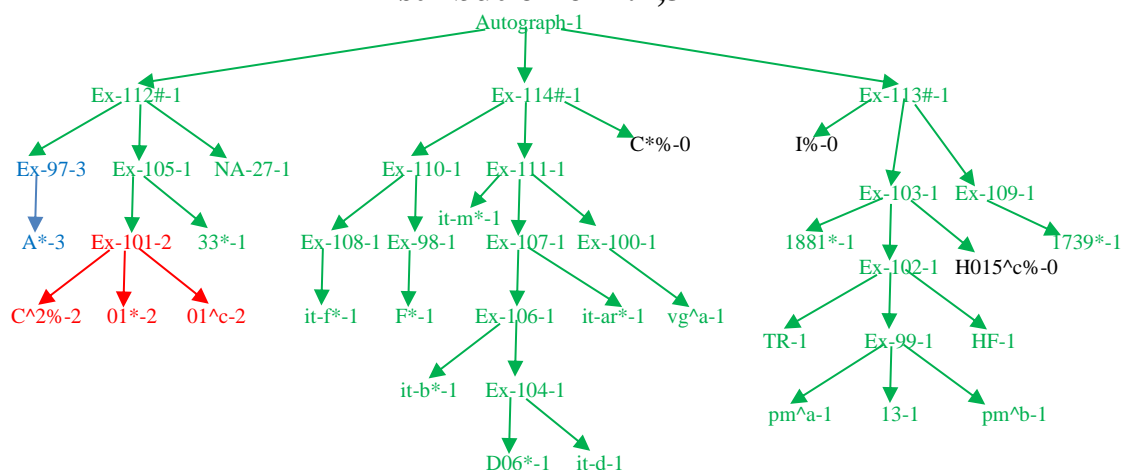

Variant 2 (knowledge) was first initiated in third-generation Exemplar Ex-110 of the Egyptian text tradition, after which it persisted throughout the remaining history of that branch. This variant lacks antiquity and distribution, but it has persistence once initiated.

Variant 3 (spirit) was first initiated in the second-generation Exemplar Ex-97 of the Egyptian text tradition, after which it persisted throughout the remaining history of that branch. This variant lacks antiquity and distribution, but it has persistence once initiated.

Tracing Any Variant

The above studies trace the history of variants of particular interest using the computer program Lachmann-10. But one may trace the history of any other desired variant using the information in Appendices D, F, and H. Take for example the variants at variation unit 17 at reference 2:6,1:

1 Timothy 2:6 reads: "who gave Himself a ransom for all, to be testified in due time." The phrase "to be testified" is a paraphrase of the literal expression "*to be* a witness." There are four alternates for the word "witness." To trace the genealogical distribution of these variants, walk through the following steps:

Step 1: Using Appendices D and F, find the variant readings.

Appendix D reads:

17.1	2:6,1.1	⌐το μαρτυριον	0.67

That is, the autographic reading is the first variant (17.1), το μαρτυριον "the witness" and that its probability is 0.67 (67%).

Appendix F reads:

17.2	2:6,1.2	01*	και μ.
17.3	2:6,1.3	Ex-97	—
17.4	2:6,1.4	Ex-114#	οὗ τ. μ.

Variant 2 is και μαρτυριον "and witness," initiated only in MS 01*.

Variant 3 is — that is, a missing reading.

Variant 4 is οὗ το μαρτυριον "of which witness" initiated in Exemplar Ex-1114#.

Step 2: Using Appendix H, find where these variants were initiated in the history of the text.

Appendix H reads:

17.1	2:6,1.1	[D06^c%]<4>; [81*]<3>; [vg^cl]<3>; [vg^st]<3>; [it-b*]<5>; [it-r%]<3>; [Ex-100]<3>; Autograph;
17.2	2:6,1.2	01*<4>;
17.3	2:6,1.3	Ex-97<2>;
17.4	2:6,1.4	[104*%]<2>; [it-m^c%]<2>; Ex-114#<1>;

That is, the first variant was initiated in the Autograph, and by mixture it was subsequently introduced in [D06^c%]<4>; [81*]<3>; [vg^cl]<3>; [vg^st]<3>; [it-b*]<5>; [it-r%]<3>; [Ex-100]<3>. The second variant was initiated only in MS 01*. The third variant was initiated only in Exemplar Ex-97. The fourth variant was initiated in Exemplar Ex-114#, and by mixture it was subsequently introduced in [104*%]<2>; [it-m^c%]<2>.

Step 3: copy figure 3.1 from chapter 3 on a separate sheet of paper, as on the next page, and write the variant numbers at the places on diagram where each variant was initiated; use green for the autographic reading (1), red for the first variant (2), blue for the second variant (3), and purple for the third variant (4), as illustrated in figure 4.12.

Step 4: Using its designated color, let each initiated variant extend by inheritance to all its descendants down to its extant terminal witnesses, or until changed by a new initiation, as shown in figure 4.13. Witnesses marked with % are fragmentary; their readings are often lacking; they may be ignored in this step.

Figure 4.12
Distribution of 1 Timothy 2:6,1
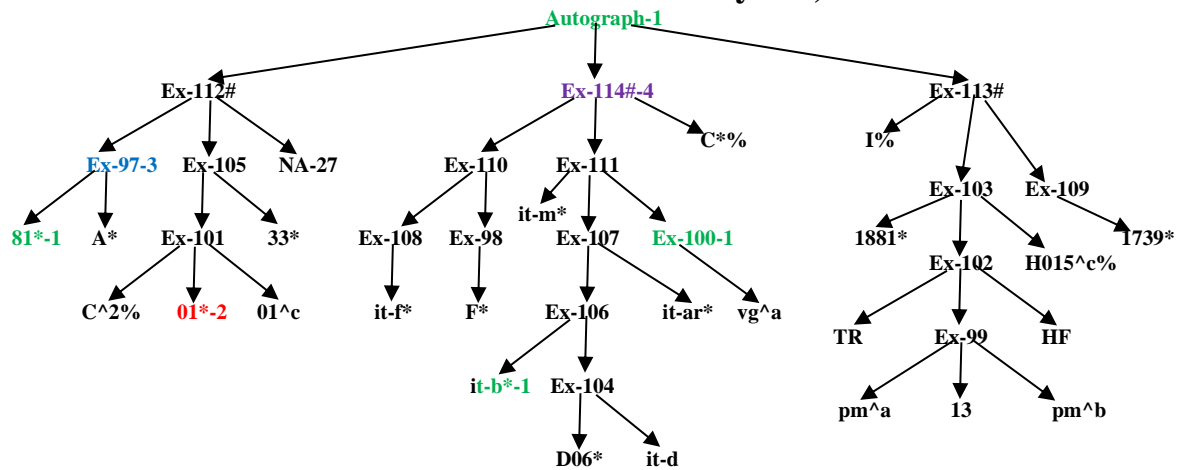
Figure 4.13 displays the distribution of these variants throughout genealogical history.

Figure 4.13
Distribution of 1 Timothy 2:6,1
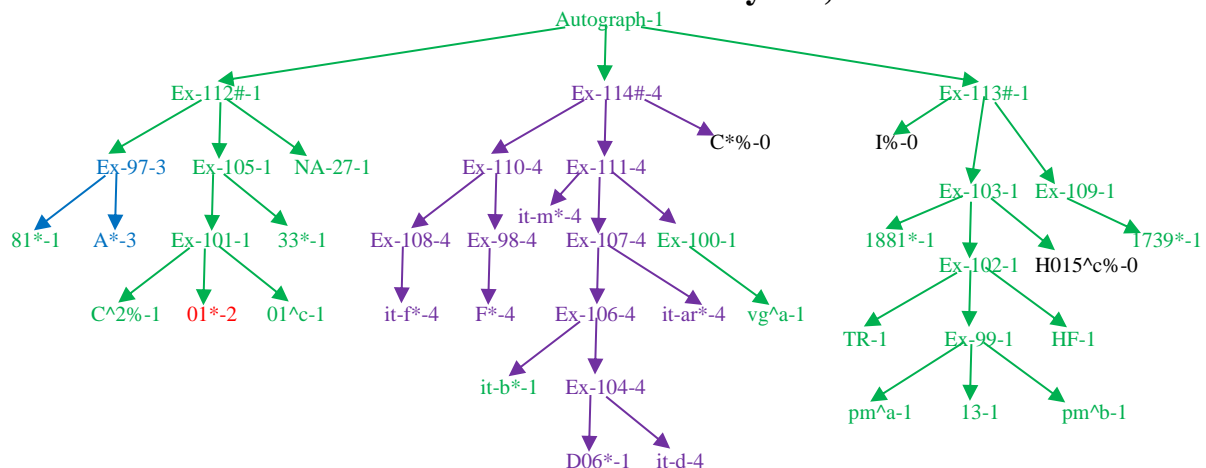
Variant 1 (the witness) has the consensus of two of the three first-generation recensions: Exemplar Ex-112#, the recension from which the Egyptian text tradition was derived, and Exemplar Ex-113#, the recension from which the Antiochan text tradition was derived; it was selected as the autographic reading on this basis with a probability of 67%. It has the support of all the witnesses in the Antiochan text tradition, and that of all the witnesses of the Egyptian text tradition, except for those in the sub-branch headed by second-generation Exemplar Ex-97, and MS 01*. It also has the support of the witnesses in the sub-branch of the Western text tradition headed by third-generation Exemplar Ex-100, as well as the following genetically independent singularities:

MSS D06^c%, 81*, vg^cl, vg^st, it-b*, and it-r% (some not shown). It has the greatest antiquity, the broadest distribution, and excellent persistence.

Variant 2 (and witness) occurs only in genetically independent Egyptian singularity MS 01*. As a singularity, it has neither heredity, antiquity, distribution, nor persistence.

Variant 3 (missing reading) was first initiated in the second-generation Exemplar Ex-97 of the Egyptian text tradition, after which it persisted throughout the remaining history of that branch, except for MS 81*. This variant lacks antiquity and distribution, but it has persistence once initiated.

Variant 4 (of which witness) was first initiated in the first-generation recension Exemplar Ex-114#, the source of the Western text tradition, after which it persisted throughout the remaining history of that branch, except for those witnesses in the sub-branch headed by third-generation Exemplar Ex-100. It occurs also by mixture in genetically independent singularities MSS 104*% and it-m^c%. This variant lacks antiquity and distribution, but it has persistence once initiated.

Conclusion

This chapter identifies the autographic readings of the Greek text of the Book of 1 Timothy and how they were determined. It provides the genealogical history of each variant reading, locating where each reading originated, and describing how each reading was distributed by inheritance throughout that history. It discusses the principal recensions, locating their origin in history, and identifying their characteristic readings.

CHAPTER 5
SUMMARY AND CONCLUSIONS

The genealogical software and the theory it emulates were successful in reconstructing a genealogical history of the Greek text of the Bool of 1 Timothy. The software made use of a modified version of the textual apparatus in the 27th edition of the Nestle-Aland Greek New Testament. Using index numbers to represent the variant readings in the witnesses to the text, the computer constructed a kind of genetic code for each witness based on its unique combination of variant readings. Then employing the basic principles of heredity, a relatively simple tree diagram was constructed representing the genealogical history of the text.

Heredity is the underlying principle of genealogical relationships. Because manuscripts of a text were copied from exemplars of earlier generations of the text, of necessity they have genealogical relationships. For manuscripts, quantitative affinity (consensus of variant readings) and a sibling gene, coupled with historical directionality constitute the variables for computing genealogical heredity. For variant readings, on the other hand, the domain of heredity is limited to their place of variation. There, heredity is determined by consensus among sibling sister witnesses and by what I call evidence of variant inheritance.[1] The software uses the heredity of manuscripts and the heredity of variant readings to guide the reconstruction of a historical genealogical tree diagram.

Mixture occurred when a scribe copied from more than one exemplar—a primary parent exemplar and one or more secondary exemplars. The readings of a manuscript were inherited from its primary parent exemplar or borrowed by mixture from its secondary parent exemplars; otherwise a variant was newly introduced by scribal error (either accidentally or intentionally) thus initiating a new line of heredity. A good number of witnesses had no mixture, but considerable mixture occurred in others. As it turned out, the presence of mixture does not affect the reconstruction of the genealogical tree, but it is very useful in identifying the places in genealogical history where variants were initiated, in tracing the genealogical history of variants, and in identifying recensions.

---

[1] At any place in the genealogical history of a text, the evidence of a variant's inheritance is its presence in other witnesses of the same or earlier generations.

The Effect of Recensions

The genealogical theory and associated software were designed to reconstruct the genealogical history of texts where the copying process was simple, without any radical discontinuities. It was anticipated that the initiation and transmission of textual variants would be gradual and that the tree would develop three or four main branches corresponding to the commonly accepted text types. However, the theory and software also made provision for radical dislocations if they perchance had occurred. As it turned out radical dislocations did occur in the form of some major and minor recensions.[2] Furthermore, the most radical recensions took place in the earliest generation that genealogical relationships could be reasonably determined. This information indicates that in the earliest days of New Testament history its text was in flux and its genealogical history for that time period cannot be confidently reconstructed. These details could have resulted in disappointment except that the earliest recensions, though diverse from one another, nevertheless had sufficient consensus to identify the autographic readings.

Binary Branches

The genealogical tree diagram reconstructed by the software is often binary, that is, there are only two branches where the tree divides. Table 3.3 in Chapter 3 indicates that 13 out of 62 branches were binary. Critics of the genealogical theory claim that the methodology fails whenever there are only two branches, because no consensus can exist where there are only two alternatives. That would be true except for the principle of deferred ambiguity. In such cases, where ambiguity exists in one witness, its sister has the inherited reading.

A reading has evidence of variant inheritance when it is also found in witnesses of earlier generations. A reading will not be found in any witness dating in a generation prior to the one in which the reading first originated. Autographic readings have continual evidence of variant inheritance; all others acquire that evidence in the generation of their origin subsequent to the autograph. The evidence of variant inheritance usually decides between two equally probable readings; but where even that fails, a final appeal can be made indirectly to internal evidence. So, a binary construction does not turn out to be a crucial weakness. Still, some may be concerned that the earliest

---

[2] A recension is recognized by the introduction of a larger number of variants than normal in a witness, usually also accompanied by a larger number of secondary parent exemplars—mixture.

history of the text is determined by such diverse witnesses. However, Table 4.4 of Chapter 4 indicates that 94.13% of the textual decisions made in the reconstruction of the historical tree diagram were made on the basis of consensus and deferred ambiguity; so, diversity was not a significant deterrent. Furthermore, Table 4.5 of Chapter 4 indicates that 100% of the autographic readings were decided on the basis of consensus.

So What!

Someone may ask: "After all those painstaking computations, what is now known that was not already known by means of traditional textual critical methodology?" The answer should be self-evident, but for the sake of review, here is a list of the more prominent bits of knowledge the computations provide:

(1) A rigorous construction of the genealogical history of the witnesses to the text, something that did not previously exist.

(2) A precise account of the genealogical history of each variant reading, including its place of origin and subsequent distribution, something that did not previously exist.

(3) The identity of the autographic readings based on an unbiased implementation of the laws of heredity, together with the mathematical probability of each one, instead of educated estimates.

(4) An accurate description of the content and structure of the traditional text types, and their internal and external genealogical relationships, instead of educated estimates.

(5) Hopefully a better understanding of the laws of heredity as they apply to manuscripts.

The laws of heredity have been applied to the factual evidence derived from the existing witnesses to the text of 1 Timothy. They have been applied with mathematical precision apart for human intervention and bias. Hopefully the results provide a better understanding of the history of the text. In either case, no claim is made that the derived history and the text identified as autographic are free from uncertainty. The results are dependent on the validity of the underlying theory and its software implementation. Undoubtedly the future will bring forth improved theory and implementation.

James D. Price
March, 2021

APPENDIX A

List of Extant Witnesses to the Greek Text of

the Book of 1 Timothy

This appendix contains a list of the extant witnesses to the Greek text of the Book of 1 Timothy. For each witness it lists its name, date, language (0 = Greek; 1 = other), content (references where readings exist), number of readings, and percentage of completeness. In the content column, a verse is counted as long as it has at least one extant reading.

Name	Date	Language	Content	Number	Percent
01*	350	0	1:1-6:21	86	98.85%
01^c	1150	0	1:1, 4-17; 2:1, 6-7, 9; 3:1-5:4; 5:8-6:5; 6:8-10, 12-21	70	80.46%
01^2%	650	0	1:1-15, 17-3:3; 3:8-4:1; 4:6-10, 14; 5:4-8, 18-19, 25-6:7; 6:9-17, 20-21	56	64.37%
A*	450	0	1:1-6:21	86	98.85%
A^c	550	0	1:1-6:21	87	100.00%
C*%	450	0	3:14-5:19	23	26.44%
C^2%	550	0	3:14-4:1; 4:6-10, 14; 5:4, 18-19	12	13.79%
D06*	550	0	1:1-6:21	87	100.00%
D06^c%	900	0	1:1, 4-15, 17; 2:1-9; 3:1-4:14; 5:4, 16-19, 21, 25-6:5; 6:8-17, 20-21	64	73.56%
D06^1%	600	0	1:1, 4-15, 17; 2:1-9; 3:1-4:14; 5:4, 8-19, 21, 25-6:5; 6:8-17, 20-21	67	77.01%
D06^2	850	0	1:1-6:21	83	95.40%
F*	850	0	1:1-6:21	86	98.85%
G012*	850	0	1:1-6:21	86	98.85%
G012^c	900	0	1:1-6:21	86	98.85%
H015*%	550	0	1:8-2:9; 3:7-8; 6:9-13	33	37.93%
H015^c%	600	0	1:8-2:9; 3:7-8; 6:9-13	33	37.93%
I%	450	0	1:1-2, 12-13; 2:1, 9; 3:7-8; 4:1-2, 10-12; 5:8, 18-19; 6:9-11, 17	26	29.89%
K*%	850	0	1:1, 4-15, 17; 2:1, 6-7; 3:1-3, 8-4:1; 4:6-10, 14; 5:4, 8, 18-19, 21, 25-6:5; 6:8-10, 12-17, 20	43	49.43%
L020*%	850	0	1:1, 4-15, 17; 2:1, 6-7; 3:1-3, 8-4:10; 4:14; 5:4, 18-19, 25-6:5; 6:9-10, 12-17, 20	41	47.13%
P025*%	850	0	1:1, 4-15, 17; 2:1, 6-7, 9-3:3; 3:8-4:1; 4:6-10, 14; 5:4-5, 16-19, 23-6:5; 6:8-17, 20-21	58	66.67%
044*	1000	0	1:1-6:21	87	100.00%
48%	450	0	5:5-20, 25-6:10; 6:12-17, 20-21	26	29.89%
241%	500	0	3:16-4:2; 4:10	7	8.05%
262%	650	0	1:15-16	2	2.30%
285%	550	0	1:1, 4	3	3.45%
6	1250	0	1:1-6:21	87	100.00%
33*	850	0	1:1-5:4; 5:8-6:17; 6:20-21	84	96.55%
81*	1044	0	1:1-15, 17; 2:1-4:1; 4:6-5:5; 5:16-19, 21-6:7; 6:9-21	71	81.61%
88	1150	0	1:1-6:21	87	100.00%
104*%	1087	0	1:1-17; 2:1, 6-3:3; 3:8-4:1; 4:6-5:4; 5:8, 18-19, 21-6:5; 6:9-10, 12-20	57	65.52%
323*	1150	0	1:1-6:21	87	100.00%

326*	950	0	1:1-6:21	87	100.00%
365%	1150	0	1:1-17; 2:1, 6-3:3; 3:8-4:1; 4:6-10, 14; 5:4, 18-19, 21, 25-6:5; 6:9-10, 12-20	55	63.22%
614*	1250	0	1:1-6:21	87	100.00%
629*	1350	0	1:1-6:21	87	100.00%
630%	1300	0	1:1, 4-15, 17; 2:1, 6-8, 14-3:3; 3:8-4:1; 4:6-10, 14; 5:4, 18-19, 21, 25-6:5; 6:9-17, 20	46	52.87%
945	1050	0	1:1-6:21	87	100.00%
1175*%	950	0	1:1-2:1; 2:6-7, 9-3:3; 3:8-4:1; 4:6-14; 5:4, 16-21, 25-6:5; 6:9-10, 12-20	64	73.56%
1241*%	1150	0	1:1, 4-15, 17; 2:1, 6-7; 3:1-3, 8-4:1; 4:6-10, 14; 5:4, 18-19, 25-6:5; 6:9-10, 12-17, 20	39	44.83%
1505*%	1150	0	1:1, 4-15, 17; 2:1, 6-9; 3:1-3, 8-4:1; 4:6-14; 5:4, 18-19, 25-6:5; 6:9-10, 12-20	48	55.17%
1739*	900	0	1:1-6:21	87	100.00%
1739^c	950	0	1:1-3:3; 3:8-6:21	86	98.85%
1881*	1350	0	1:1-6:21	87	100.00%
1881^c%	1400	0	1:1, 4-15, 17; 2:1, 6-7; 3:1-3, 8-4:1; 4:6-10, 14; 5:4, 18-19, 25-6:5; 6:9-10, 12-17, 20	39	44.83%
pm^a	850	0	1:1-6:21	87	100.00%
pm^b	850	0	1:1-6:21	87	100.00%
TR	1892	0	1:1-6:21	87	100.00%
HF	1982	0	1:1-6:21	87	100.00%
RP	1995	0	1:1-6:21	87	100.00%
l^249	850	0	1:1-6:21	87	100.00%
l^846	850	0	1:1-6:21	87	100.00%
vg^a	400	1	1:1-17; 2:1-9; 3:1-3, 8-5:5; 5:16-6:10; 6:12-21	70	80.46%
vg^b	400	1	1:1-17; 2:1-9; 3:1-3, 8-5:5; 5:16-6:10; 6:12-21	71	81.61%
vg^cl	1592	1	1:1-17; 2:1-9; 3:1-3, 8-5:5; 5:18-6:10; 6:12-21	71	81.61%
vg^s%	1590	1	1:1-17; 2:1-9; 3:1-3, 8-5:5; 5:18-6:10; 6:12-21	69	79.31%
vg^st	1994	1	1:1-17; 2:1-9; 3:1-3, 8-5:5; 5:18-6:10; 6:12-21	71	81.61%
vg^ww	1889	1	1:1-17; 2:1-9; 3:1-3, 8-5:5; 5:18-6:10; 6:12-21	71	81.61%
it-ar*	950	1	1:1-17; 2:1-9; 3:1-3, 8-5:5; 5:16-6:10; 6:12-21	73	83.91%
it-b*	450	1	1:1-17; 2:1-9; 3:1-3, 8-5:5; 5:16-6:10; 6:12-21	72	82.76%
it-d	450	1	1:1-6:21	87	100.00%
it-f*	550	1	1:1-6:21	86	98.85%
it-g*	800	1	1:1-6:21	87	100.00%
it-g^c	800	1	1:1-6:21	87	100.00%
it-m*	950	1	1:1-17; 2:1-9; 3:1-3, 8-5:5; 5:16-6:10; 6:12-21	72	82.76%
it-m^c%	1000	1	1:1, 4-15, 17; 2:1, 6-7; 3:1-3, 8-4:1; 4:6-10, 14; 5:4, 16-19, 25-6:7; 6:9-10, 12-17, 20	45	51.72%

it-r%	700	1	1:12-17; 2:1-9; 5:18-6:10; 6:12-13	41	47.13%
sy^h%	616	1	1:1-17; 2:1-9; 3:1-3, 8-4:1; 4:6-14; 5:4-5, 16-6:10; 6:12-21	69	79.31%
sy^p%	425	1	1:1, 4-15, 17; 2:1, 6-7, 9; 3:1-3, 8-4:10; 4:14; 5:4, 18-19, 25-6:5; 6:8-10, 12-17, 20	45	51.72%
sa^a%	250	1	1:1-15, 17; 2:1-7, 9; 3:1-3, 8-4:1; 4:6-5:5; 5:16-19, 21, 25-6:10; 6:12-17, 20-21	59	67.82%
sa^b%	250	1	1:1, 4-15, 17; 2:1-7, 9; 3:1-3, 8-4:1; 4:6-5:5; 5:16-19, 21, 25-6:10; 6:12-17, 20	58	66.67%
bo^a%	250	1	1:1-15, 17; 2:1-7, 9; 3:1-3, 8-4:1; 4:6-5:5; 5:16-19, 21, 25-6:10; 6:12-17, 20-21	60	68.97%
bo^b%	250	1	1:1-15, 17; 2:1-7, 9; 3:1-3, 8-4:1; 4:6-5:5; 5:16-19, 21, 25-6:10; 6:12-21	60	68.97%
13	1250	0	1:1-6:21	87	100.00%
69	1450	0	1:1-6:21	87	100.00%
346	1150	0	1:1-6:21	87	100.00%
543	1150	0	1:1-6:21	87	100.00%
788	1050	0	1:1-6:21	87	100.00%
826	1150	0	1:1-6:21	87	100.00%
828	1150	0	1:1-6:21	87	100.00%
983	1150	0	1:1-6:21	87	100.00%
NA-27	1979	0	1:1-6:21	87	100.00%
Ambst%	366	1	1:12, 15; 2:1, 6, 9; 3:1; 4:10; 5:4, 16-20, 23; 6:5-8, 16-17, 21	21	24.14%
Ath%	373	0	5:16	1	1.15%
Bas%	379	0	6:17	1	1.15%
Cl^a%	215	0	1:8, 18; 2:9; 4:2, 12; 5:18, 21-23; 6:4	13	14.94%
Cyp^a%	258	1	6:3, 5, 8	3	3.45%
Did^a%	398	0	3:16; 4:2; 6:7, 17	4	4.60%
Epiph^a%	403	0	1:12, 17; 3:16; 4:2	4	4.60%
Hier^a%	420	1	6:07	1	1.15%
Ir^a%	150	0	1:04	2	2.30%
Irlat^a%	395	1	6:20	1	1.15%
Lcf%	371	1	1:12; 5:20; 6:5	3	3.45%
Or^a%	254	0	4:2; 5:18; 6:17	5	5.75%
Pel%	418	1	5:4, 19	2	2.30%
Spec%	450	0	2:9; 3:1; 5:4; 6:7, 9, 17	6	6.90%
Tert^a%	220	1	1:17; 2:7; 6:13-16	5	5.75%

APPENDIX B

List of the References Associated

with Each Place of Variation

This appendix contains a list of the references associated with each place of variation. The number to the left of the hyphen is the index number of the place of variation, and the numbers to the right constitute the reference. The reference indicates the chapter, verse, and ordered rank of the place of variation in that verse. For example, 23-29,9,1 indicates that the 23rd place of variation occurs in chapter 2, verse 9, and is the 1st place of variation in that verse.

Reference at Each Place of Variation

1- 1:1,1	2- 1:2,1	3- 1:4,1	4- 1:4,2	5- 1:8,1	6- 1:12,1	7- 1:12,2
8- 1:13,1	9- 1:13,2	10- 1:15,1	11- 1:16,1	12- 1:17,1	13- 1:17,2	14- 1:18,1
15- 2:1,1	16- 2:3,1	17- 2:6,1	18- 2:6,2	19- 2:7,1	20- 2:7,2	21- 2:7,3
22- 2:8,1	23- 2:9,1	24- 2:9,2	25- 2:9,3	26- 2:9,4	27- 2:14,1	28- 3:1,1
29- 3:3,1	30- 3:7,1	31- 3:8,1	32- 3:14,1	33- 3:14,2	34- 3:16,1	35- 3:16,2
36- 4:1,1	37- 4:2,1	38- 4:6,1	39- 4:6,2	40- 4:10,1	41- 4:10,2	42- 4:10,3
43- 4:12,1	44- 4:14,1	45- 4:15,1	46- 5:4,1	47- 5:4,2	48- 5:5,1	49- 5:8,1
50- 5:8,2	51- 5:16,1	52- 5:16,2	53- 5:18,1	54- 5:18,2	55- 5:19,1	56- 5:20,1
57- 5:21,1	58- 5:21,2	59- 5:23,1	60- 5:25,1	61- 5:25,2	62- 6:3,1	63- 6:4,1
64- 6:4,2	65- 6:4,3	66- 6:5,1	67- 6:5,2	68- 6:7,1	69- 6:8,1	70- 6:9,1
71- 6:9,2	72- 6:10,1	73- 6:11,1	74- 6:11,2	75- 6:12,1	76- 6:13,1	77- 6:13,2
78- 6:13,3	79- 6:13,4	80- 6:16,1	81- 6:17,1	82- 6:17,2	83- 6:17,3	84- 6:19,1
85- 6:20,1	86- 6:21,1	87- 6:21,2				

Appendix C

The Genealogical Tree Diagram of

The Textual History of the Book of 1 Timothy

This appendix contains the tree diagram of the genealogical history of the Greek text of the Book of 1 Timothy. The tree is displayed vertically rather than horizontally. That is, the autograph in the upper left corner with succeeding generations indented from the left progressively down-ward. Sibling daughter descendants are linked by vertical lines. For example, the first-generation descendants of the autograph are Ex-112#,[49] Ex-113#, and Ex-114#. Only the primary exemplars are displayed, so no mixture connections are shown. The diagram spills over onto succeeding pages, but the lower-case letters at the page breaks show where the lines from one page connect to those of the next.

The format of the information on each line is as follows: (1) the name of the witness; (2) the genealogical affinity of the witness with its primary parent exemplar, enclosed in square brack-ets []; (3) generation from the autograph, enclosed in angular brackets <>; (4) date, enclosed in curly brackets {}; (5) the number of variants the witness differs from its primary parent, enclosed in slant marks //; (6) The number of variants in the sibling gene; and (7) the number of parents the witness has.
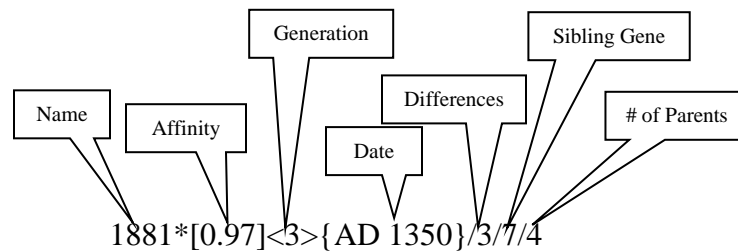
| Name | Affinity | Generation | Date | Differences | Sibling Gene | # of Parents |

1881*[0.97]<3>{AD 1350}/3/7/4

Genealogical Tree of 1 Timothy

```
Autograph[0.00]<0>{AD 75}/0/0/0
  |-Ex-112#[0.94]<1>{AD 95}/5/5/2
  |  |-K*%[0.93]<2>{AD 850}/3/5/3
  |  |-L020*%[0.95]<2>{AD 850}/2/5/3
  |  |-P025*%[0.93]<2>{AD 850}/4/5/4
  |  |-104*%[0.93]<2>{AD 1087}/4/5/4
  |  |-365%[0.85]<2>{AD 1150}/8/5/5
  |  |-630%[0.89]<2>{AD 1300}/5/5/4
  |  |-1175*%[0.91]<2>{AD 950}/6/5/5
  |  |-1241*%[0.97]<2>{AD 1150}/1/5/2
  |  |-1505*%[0.94]<2>{AD 1150}/3/5/3
  |  |-1881^c%[0.97]<2>{AD 1400}/1/5/2
  |  |-it-m^c%[0.87]<2>{AD 1000}/6/5/4
  |  |-sy^p%[0.93]<2>{AD 425}/3/5/3
  |  |-sa^a%[0.88]<2>{AD 250}/7/5/5
  |  |-sa^b%[0.91]<2>{AD 250}/5/5/5
  |  |-bo^a%[0.85]<2>{AD 250}/9/5/5
  |  |-bo^b%[0.88]<2>{AD 250}/7/5/5
  |  |-NA-27[0.93]<2>{AD 1979}/6/5/4
  |  |-Ex-97[0.90]<2>{AD 400}/9/5/4
  |  |  |-A*[1.00]<3>{AD 450}/0/9/1
  |  |  |-A^c[0.99]<3>{AD 550}/1/9/2
  |  |  |-81*[0.87]<3>{AD 1044}/9/9/5
  |  |-Ex-105[0.95]<2>{AD 115}/4/5/3
  |     |-33*[0.93]<3>{AD 850}/6/4/4
  |     |-Or^a%[0.80]<3>{AD 254}/1/4/2
  |     |-Ex-101[0.83]<3>{AD 165}/15/4/5
  |        |-01^c[0.99]<4>{AD 1150}/1/15/2
  |        |-01*[0.93]<4>{AD 350}/6/15/2
  |        |-C^2%[1.00]<4>{AD 550}/0/15/1
  |        |-Cl^a%[0.62]<4>{AD 215}/5/15/4
  |-Ex-113#[0.89]<1>{AD 221}/10/10/2
  |  |-H015*%[0.76]<2>{AD 550}/8/10/3
  |  |-I%[0.88]<2>{AD 450}/3/10/3
  |  |-Bas%[1.00]<2>{AD 379}/0/10/1
  |  |-Ex-109[0.99]<2>{AD 400}/1/10/2
  |  |  |-1739*[1.00]<3>{AD 900}/0/1/1
  |  |  |-1739^c[0.99]<3>{AD 950}/1/1/2
  a  b  c
```

```
a  b  c
|  |  |-048%[0.88]<3>{AD 450}/3/1/4
|  |-Ex-103[0.92]<2>{AD 271}/7/10/3
|     |-1881*[0.97]<3>{AD 1350}/3/7/4
|     |-H015^c%[0.76]<3>{AD 600}/8/7/6
|     |-Ex-102[0.68]<3>{AD 321}/28/7/6
|        |-945[0.98]<4>{AD 1050}/2/28/3
|        |-01^2%[0.84]<4>{AD 650}/9/28/3
|        |-D06^1%[0.85]<4>{AD 600}/10/28/2
|        |-TR[0.97]<4>{AD 1892}/3/28/3
|        |-HF[1.00]<4>{AD 1982}/0/28/1
|        |-RP[1.00]<4>{AD 1995}/0/28/1
|        |-sy^h%[0.83]<4>{AD 616}/12/28/5
|        |-Lcf%[1.00]<4>{AD 371}/0/28/1
|        |-Pel%[0.50]<4>{AD 418}/1/28/2
|        |-Ex-99[1.00]<4>{AD 800}/0/28/1
|           |-88[1.00]<5>{AD 1150}/0/0/1
|           |-D06^2[0.88]<5>{AD 850}/10/0/5
|           |-6[0.84]<5>{AD 1250}/14/0/5
|           |-323*[0.99]<5>{AD 1150}/1/0/2
|           |-326*[0.95]<5>{AD 950}/4/0/3
|           |-614*[0.98]<5>{AD 1250}/2/0/2
|           |-629*[0.90]<5>{AD 1350}/9/0/5
|           |-pm^a[1.00]<5>{AD 850}/0/0/1
|           |-pm^b[1.00]<5>{AD 850}/0/0/1
|           |-l^249[1.00]<5>{AD 850}/0/0/1
|           |-l^846[1.00]<5>{AD 850}/0/0/1
|           |-13[1.00]<5>{AD 1250}/0/0/1
|           |-69[0.99]<5>{AD 1450}/1/0/2
|           |-346[1.00]<5>{AD 1150}/0/0/1
|           |-543[1.00]<5>{AD 1150}/0/0/1
|           |-788[1.00]<5>{AD 1050}/0/0/1
|           |-826[1.00]<5>{AD 1150}/0/0/1
|           |-828[1.00]<5>{AD 1150}/0/0/1
|           |-983[1.00]<5>{AD 1150}/0/0/1
|-Ex-114#[0.87]<1>{AD 80}/11/11/2
   |-C*%[0.83]<2>{AD 450}/4/11/3
   |-0241%[0.71]<2>{AD 500}/2/11/3
   |-0262%[1.00]<2>{AD 650}/0/11/1
   |-0285%[1.00]<2>{AD 550}/0/11/1
   a
```

```
a
|-Ath%[1.00]<2>{AD 373}/0/11/1
|-Did^a%[0.75]<2>{AD 398}/1/11/3
|-Epiph^a%[0.75]<2>{AD 403}/1/11/2
|-Hier^a%[0.00]<2>{AD 420}/1/11/2
|-Irlat^a%[1.00]<2>{AD 395}/0/11/1
|-Ex-110[0.83]<2>{AD 450}/15/11/4
|  |-Ex-108[0.87]<3>{AD 500}/11/15/3
|  |  |-it-f*[0.92]<4>{AD 550}/7/11/5
|  |  |-it-g*[0.99]<4>{AD 800}/1/11/2
|  |-Ex-98[1.00]<3>{AD 750}/0/15/1
|     |-G012*[1.00]<4>{AD 850}/0/0/1
|     |-F*[0.98]<4>{AD 850}/2/0/3
|     |-G012^c[1.00]<4>{AD 900}/0/0/1
|     |-it-g^c[1.00]<4>{AD 800}/0/0/1
|-Ex-111[0.78]<2>{AD 100}/19/11/3
   |-it-m*[0.92]<3>{AD 950}/6/19/3
   |-vg^cl[0.86]<3>{AD 1592}/10/19/5
   |-vg^s%[0.87]<3>{AD 1590}/9/19/4
   |-vg^st[0.85]<3>{AD 1994}/11/19/4
   |-it-r%[0.80]<3>{AD 700}/8/19/4
   |-Cyp^a%[0.67]<3>{AD 258}/1/19/2
   |-Ir^a%[1.00]<3>{AD 150}/0/19/1
   |-Ex-100[0.79]<3>{AD 350}/18/19/4
   |  |-vg^ww[0.85]<4>{AD 1889}/11/18/7
   |  |-044*[0.91]<4>{AD 1000}/8/18/4
   |  |-vg^a[0.83]<4>{AD 400}/12/18/5
   |  |-vg^b[0.77]<4>{AD 400}/16/18/8
   |-Ex-107[0.80]<3>{AD 170}/17/19/4
      |-it-ar*[0.67]<4>{AD 950}/24/17/7
      |-D06^c%[0.81]<4>{AD 900}/12/17/3
      |-Ambst%[0.67]<4>{AD 366}/7/17/5
      |-Spec%[0.83]<4>{AD 450}/1/17/2
      |-Tert^a%[0.80]<4>{AD 220}/1/17/2
      |-Ex-106[1.00]<4>{AD 350}/0/17/1
         |-it-b*[0.76]<5>{AD 450}/17/0/6
         |-Ex-104[1.00]<5>{AD 400}/0/0/1
            |-D06*[1.00]<6>{AD 550}/0/0/1
            |-it-d[0.93]<6>{AD 450}/6/0/3
```

Appendix D

List of Autographic Readings

The Book of 1 Timothy

This appendix contains the list of autographic readings for the Greek text of the Book of 2 Corinthians as determined by the genealogical method described in this book. The list contains the index of each place of variation (variation unit), the associated reference, the Greek reading at that place, and the probability that the reading is autographic.

Var Unit	Reference	Reading	Prob.
1.1	1:1,1.1	⌜ἐπιταγην	1
2.1	1:2,1.1	ᵀ ομιτ	1
3.2	1:4,1.2	ζητ—	0.67
4.1	1:4,2.1	⌜οἰκονομιαν	1
5.1	1:8,1.1	⌜χρηται	1
6.1	1:12,1.1	ᵀ ομιτ	1
7.1	1:12,2.1	⌜ἐνδυναμωσαντι	1
8.1	1:13,1.1	⌜το	1
9.1	1:13,2.1	ᵀ ομιτ	1
10.1	1:15,1.1	⌜πιστος	1
11.1	1:16,1.1	ʽΧριστος Ἰησους	0.67
12.1	1:17,1.1	ʽἀφθαρτω ἀορατω	1
13.1	1:17,2.1	ᵀ ομιτ	1
14.1	1:18,1.1	⌜στρατευη	1
15.1	2:1,1.1	⌜Θαρακαλω	1
16.1	2:3,1.1	ᵀ ομιτ	0.67
17.1	2:6,1.1	ʽτο μαρτυριον	0.67
18.1	2:6,2.1	ᵀ ομιτ	0.67
19.1	2:7,1.1	ʽεἰς ο ἐτεθην	1
20.1	2:7,2.1	ᵀ ομιτ	1
21.1	2:7,3.1	⌜πιστει	1
22.1	2:8,1.1	⌜διαλογισμου	0.67
23.1	2:9,1.1	⌜και	0.67
24.1	2:9,2.1	ᴲκοσμιω	0.67
25.1	2:9,3.1	⌜και	1
26.1	2:9,4.1	⌜χρυσιω	1
27.1	2:14,1.1	⌜ἐξαπατηθεισα	1
28.1	3:1,1.1	⌜πιστος	1
29.1	3:3,1.1	ᵀ ομιτ	1
30.1	3:7,1.1	ᵀ ομιτ	1
31.1	3:8,1.1	°σεμνους	1
32.1	3:14,1.1	▯προς σε	0.67
33.1	3:14,2.1	ʽἐν ταχει	0.67
34.1	3:16,1.1	⌜ομολογουμενως	1
35.1	3:16,2.1	ᴲος	0.67
36.1	4:1,1.1	⌜πλανοις	1
37.3	4:2,1.3	κεκαυτ—	0.67
38.1	4:6,1.1	⌜η	1
39.1	4:6,2.1	ᴲπαρηκολουθηκας	1

40.1	4:10,1.1	ᵀ ομιτ	1
41.1	4:10,2.1	⸀ἀγωνιζομεθα	0.67
42.1	4:10,3.1	⸀ἠλπικαμεν	1
43.1	4:12,1.1	ᵀ ομιτ	1
44.1	4:14,1.1	⸀πρεσβυτεριου	1
45.1	4:15,1.1	ᵀ ομιτ	1
46.1	5:4,1.1	⸀μανθανετωσαν	1
47.1	5:4,2.1	ᵀ ομιτ	1
48.1	5:5,1.1	⸀θεον	1
49.1	5:8,1.1	ᵀ ομιτ	1
50.1	5:8,2.1	⸀προνοει	0.67
51.1	5:16,1.1	ᵀ ομιτ	1
52.1	5:16,2.1	⸀ἐπαρκειτω	0.67
53.1	5:18,1.1	⸆βουν ἀλοωντα οὐ φιμωσεις	0.67
54.1	5:18,2.1	⸀του μισθου	1
55.1	5:19,1.1	⸋ἐκτος εἰ μη ἐπι δυο η τριων μαρτυρων	1
56.1	5:20,1.1	ᵀ ομιτ	0.67
57.1	5:21,1.1	⸀Χριστου Ἰησου	0.67
58.2	5:21,2.2	—κλησιν	1
59.1	5:23,1.1	ᵀ ομιτ	1
60.1	5:25,1.1	ᵀ ομιτ	1
61.1	5:25,2.1	⸀δυνανται	0.67
62.1	6:3,1.1	⸀προσερχεται	1
63.1	6:4,1.1	⸀γινεται	1
64.1	6:4,2.1	⸀φθονος	1
65.1	6:4,3.1	⸀ερις	0.67
66.1	6:5,1.1	⸀ἀπεστερημενων	1
67.1	6:5,2.1	ᵀ ομιτ	1
68.1	6:7,1.1	⸀οτι	1
69.1	6:8,1.1	⸀διατροφας	0.67
70.1	6:9,1.1	ᵀ ομιτ	0.67
71.1	6:9,2.1	⸀ἀνοητους	1
72.1	6:10,1.1	⸀πολλαις	1
73.1	6:11,1.1	ᵀ ομιτ	0.67
74.1	6:11,2.1	⸀πραυπαθιαν	1
75.1	6:12,1.1	ᵀ ομιτ	1
76.2	6:13,1.2	° ομιτ	1
77.1	6:13,2.1	°του	1
78.1	6:13,3.1	⸀ζωογονουντος	1
79.1	6:13,4.1	⸋Χριστου Ἰησου⸌	1

80.1	6:16,1.1	ᵀ ομιτ	1
81.1	6:17,1.1	⸀υψηλοφρονειν	1
82.2	6:17,2.2	επι τω	0.67
83.1	6:17,3.1	ᵀ ομιτ	1
84.1	6:19,1.1	⸀οντως	1
85.1	6:20,1.1	⸀κενοφωνιας	0.67
86.1	6:21,1.1	⸆μεθ᾽ υμων	0.67
87.1	6:21,2.1	ᵀ ομιτ	1

Appendix E

List of the Places the Lachmann-10 Text

Differs from the NA-27 Text

for the Book of 1 Timothy

1:4,1.2	Replace NA-27 =>	⌜ἐκζητησεις	with =>	ζητ—	[0.67]
4:2,1.3	Replace NA-27 =>	⌜κεκαυστηριασμενων	with =>	κεκαυτ—	[0.67]
5:21,2.2	Replace NA-27 =>	⌜προσκλισιν	with =>	—κλησιν	[1.00]
6:13,1.2	Omit NA-27 =>	°σοι			[1.00]
6:17,2.2	Replace NA-27 =>	⌜ἐπι	with =>	επι τω	[0.67]

Appendix F

Places Where the Non-Autographic Variants Were Initiated

Only Once in the Textual History of 1 Timothy

Arranged in Order by Reference

This appendix lists the place in the genealogical history of the text of the Book of 1 Timothy where each non-original textual variant was first initiated, arranged in order by reference. For each variant, the table lists (1) the place of variation in the text where the variation occurred, (2) the associated reference, (3) the exemplar or extant witness in which the variant was initiated, and (4) the text of the variant. For example, the following line means:

3.1	1:4,1.1	Ex-112#	⌜ἐκζητησεις

  (1) 3.1 refers to the first variant at variation unit 3.
  (2) 1:4,1.1 is the reference where this place of variation occurs: chapter 1, verse 4, the first place of variation in this verse, the first variant there.
  (3) This variant was initiated in Exemplar Ex-112#.
  (4) The variant reads: ἐκζητησεις (dispute)
  (5) Since the variant was first initiated in an exemplar, one can presume that the variant was inherited by all of the descendants of that exemplar (Ex-112#) unless otherwise altered in one of its subsequent branches.

The following line means:

31.2	3:8,1.2	01*	° ομιτ

  (1) 31.2 refers to the second variant at variation unit 31.
  (2) 3:8,1.2 is the reference where this place of variation occurs: chapter 3, verse 8, the first place of variation in this verse, the second variant there.
  (3) This variant was initiated in terminal witness MS 01*
  (4) The variant reads: ομιτ (omit)

Since the variant was initiated in a terminal witness, it is a singularity with no inheritance.

The following line means:

10.2	1:15,1.2	Ex-116$	ανθρωπινος

  (1) 10.2 refers to the second variant at variation unit 10.
  (2) 1:15,1.2 is the reference where this place of variation occurs: chapter 1, verse 15, the first place of variation in this verse, the second variant there.
  (3) This variant was initiated in exemplar Ex-116$, a virtual exemplar, a source of mixture.
  (4) The variant reads: προς (toward).

VarUnit	Reference	Source	Reading
1.2	1:1,1.2	Ex-101	επαγγελιαν
2.2	1:2,1.2	Ex-116$	ημων
3.1	1:4,1.1	Ex-112#	⌜εκζητησεις
4.2	1:4,2.2	Ex-117$	οικοδομην
5.2	1:8,1.2	Ex-116$	χρησηται
6.2	1:12,1.2	Ex-116$	και
7.2	1:12,2.2	Ex-116$	—μουντι
8.2	1:13,1.2	Ex-116$	τον
9.2	1:13,2.2	Ex-117$	με
10.2	1:15,1.2	Ex-116$	ανθρωπινος
11.2	1:16,1.2	Ex-117$	⌐ 2 1
11.3	1:16,1.3	Ex-113#	2
11.4	1:16,1.4	614*	Ι. ο Χρ.
12.2	1:17,1.2	Ex-111	αθανατω αορ.
12.3	1:17,1.3	Ex-116$	αφθ. αορ. αθαν.
13.2	1:17,2.2	Ex-117$	σοφω
14.2	1:18,1.2	Ex-116$	—ευση
15.2	2:1,1.2	Ex-117$	—κάλει
16.2	2:3,1.2	Ex-119$	γαρ
17.2	2:6,1.2	01*	και μ.
17.3	2:6,1.3	Ex-97	—
17.4	2:6,1.4	Ex-114#	οὗ τ. μ.
18.2	2:6,2.2	Ex-114#	δοθη
19.2	2:7,1.2	Ex-97	ο επιστευθην
20.2	2:7,2.2	Ex-117$	εν Χριστω
21.2	2:7,3.2	Ex-101	γνωσει
21.3	2:7,3.3	Ex-97	πνευματι
22.2	2:8,1.2	Ex-119$	—γισμων
23.2	2:9,1.2	Ex-119$	⌐—
23.3	2:9,1.3	Ex-117$	και τας
24.2	2:9,2.2	Ex-119$	—ιως
25.2	2:9,3.2	Ex-116$	η
25.3	2:9,3.3	Ex-117$	—
26.2	2:9,4.2	Ex-116$	—σω
27.2	2:14,1.2	Ex-102	απατ—
28.2	3:1,1.2	Ex-117$	ανθρωπινος
29.2	3:3,1.2	Ex-117$	μη αισχροκερδη
30.2	3:7,1.2	Ex-116$	αυτον
31.2	3:8,1.2	01*	° ομιτ
32.2	3:14,1.2	Ex-119$	▯ ομιτ
33.2	3:14,2.2	Ex-119$	⌐ ταχιον

34.2	3:16,1.2	Ex-117$	ὁμολογοῦμεν ὡς
35.2	3:16,2.2	Ex-111	ὅ
35.3	3:16,2.3	Ex-119$	θεος
36.2	4:1,1.2	Ex-119$	νης
37.1	4:2,1.1	Ex-112#	⌜κεκαυστηριασμενων
37.2	4:2,1.2	Ex-116$	και καυτ—
38.2	4:6,1.2	Ex-116$	ης
39.2	4:6,2.2	Ex-116$	—θησας
40.2	4:10,1.2	Ex-117$	και
41.2	4:10,2.2	Ex-119$	ονειδιζομεθα
42.2	4:10,3.2	Ex-117$	—ισαμεν
43.2	4:12,1.2	Ex-102	εν πνευματι
44.2	4:14,1.2	Ex-119$	—ρου
45.2	4:15,1.2	Ex-117$	εν
46.2	5:4,1.2	Ex-117$	—ετω
47.2	5:4,2.2	Ex-116$	καλον και
48.2	5:5,1.2	Ex-117$	τον κυριον
49.2	5:8,1.2	Ex-116$	των
50.2	5:8,2.2	Ex-119$	—ειται
51.2	5:16,1.2	Ex-117$	πιστος η
52.2	5:16,2.2	Ex-119$	—εισθω
53.2	5:18,1.2	Ex-119$	3 4 1 2
53.3	5:18,1.3	Ex-107	β. αλ. ου κημωσεις
54.2	5:18,2.2	Ex-116$	της τροφης
55.2	5:19,1.2	Ex-119$	□ ομιτ
56.2	5:20,1.2	Ex-114#	δε
57.2	5:21,1.2	Ex-102	κυριου I. Χρ.
57.3	5:21,1.3	Ex-119$	2 1
58.1	5:21,2.1	Ex-116$	⌜προσκλισιν
59.2	5:23,1.2	Ex-116$	σου
60.2	5:25,1.2	Ex-116$	δε
61.2	5:25,2.2	Ex-119$	—ναται
62.2	6:3,1.2	Ex-119$	προσεχεται
63.2	6:4,1.2	Ex-116$	γεννωνται
64.2	6:4,2.2	Ex-117$	φθονοι
65.2	6:4,3.2	Ex-119$	ερεις
66.2	6:5,1.2	Ex-107	απεστραμμενων απο
66.3	6:5,1.3	365%	απερριμμενων
67.2	6:5,2.2	Ex-117$	αφιστασο απο των τοιουτων
68.2	6:7,1.2	Ex-116$	αληθες οτι
68.3	6:7,1.3	Ex-117$	δηλον οτι
68.4	6:7,1.4	Ex-119$	—

69.2	6:8,1.2	Ex-119$	διατροφην
70.2	6:9,1.2	Ex-114#	του διαβολου
71.2	6:9,2.2	Ex-119$	ανονητους
72.2	6:10,1.2	Ex-116$	ποικιλαις
73.2	6:11,1.2	Ex-119$	του
74.2	6:11,2.2	Ex-116$	πρατητα
75.2	6:12,1.2	Ex-116$	και
76.1	6:13,1.1	Ex-116$	°σοι
77.2	6:13,2.2	Ex-101	° ομιτ
78.2	6:13,3.2	Ex-117$	ζωοποιουντος
79.2	6:13,4.2	Ex-116$	2 1
80.2	6:16,1.2	Ex-117$	και
81.2	6:17,1.2	Ex-116$	υψηλα φρ.
82.1	6:17,2.1	Ex-119$	⌐ἐπι
82.3	6:17,2.3	Ex-102	εν τω
83.2	6:17,3.2	Ex-117$	τω ζωντι
84.2	6:19,1.2	Ex-116$	αιωνιου
84.3	6:19,1.3	1175*%	αιων. οντως
85.2	6:20,1.2	Ex-119$	καινοφ—
86.2	6:21,1.2	Ex-119$	μετα σου
87.2	6:21,2.2	Ex-116$	αμην

Appendix G

Places Where the Non-Autographic Variants Were Initiated

in the Textual History of 1 Timothy

Arranged in Order by Witness

This appendix lists the place in the genealogical history of the text of the Book of 1 Timothy where each non-original textual variant was first initiated, arranged in order by witness. For each witness, the table lists (1) the exemplar or extant witness in which the variant was initiated, (2) the place of variation in the text where the variation occurred, (3) the associated reference, (4) the text of the variant. For example, the following line means:

01*	31.2	3:8,1.2	° ομιτ

(1) This variant was initiated in MS 01*.

(2) 31.2 refers to the second variant at variation unit 31.

(3) 3:8,1.2 is the reference where this place of variation occurs: chapter 3, verse 8, the first place of variation in this verse, the second variant there.

(4) The variant reads: ομιτ (omit)

Since the variant was first initiated in a manuscript, it a singularity having no prior history.

The following line means:

Ex-112#	3.1	1:4,1.1	⌜εκζητησεις

(1) This variant was initiated in Exemplar Ex-112#.

(2) 3.1 refers to the first variant at variation unit 3.

(3) 1:4,1.1 is the reference where this place of variation occurs: chapter 1 verse 4, the first place of variation in this verse, the first variant there.

(4) The variant reads: ἐκζητησεις (dispute)

Since the variant was first initiated in an exemplar, one can presume that the variant was inherited by all of the descendants of that exemplar (Ex-112#) unless otherwise altered in one of its subsequent branches.

**List of Places Where Non-Autographic Variants Were Initiated
in the Genealogical History, Arranged in Order by Witness
Total = 104**

01*	17.2	2:6,1.2	και μ.
01*	31.2	3:8,1.2	° ομιτ
Total for 01* = 2			
365%	66.3	6:5,1.3	απερριμμενων
Total for 365% = 1			
614*	11.4	1:16,1.4	Ι. ο Χρ.
Total for 614* = 1			
1175*%	84.3	6:19,1.3	αιων. οντως
Total for 1175*% = 1			
Ex-97	17.3	2:6,1.3	—
Ex-97	19.2	2:7,1.2	ο επιστευθην
Ex-97	21.3	2:7,3.3	πνευματι
Total for Ex-97 = 3			
Ex-101	1.2	1:1,1.2	επαγγελιαν
Ex-101	21.2	2:7,3.2	γνωσει
Ex-101	77.2	6:13,2.2	° ομιτ
Total for Ex-101 = 3			
Ex-102	27.2	2:14,1.2	απατ—
Ex-102	43.2	4:12,1.2	εν πνευματι
Ex-102	57.2	5:21,1.2	κυριου Ι. Χρ.
Ex-102	82.3	6:17,2.3	εν τω
Total for Ex-102 = 4			
Ex-107	53.3	5:18,1.3	β. αλ. ου κημωσεις
Ex-107	66.2	6:5,1.2	απεστραμμενων απο
Total for Ex-107 = 2			
Ex-111	12.2	1:17,1.2	αθανατω αορ.

Ex-111	35.2	3:16,2.2	ὅ
Total for Ex-111 = 2			
Ex-112#	3.1	1:4,1.1	⌜ἐκζητησεις
Ex-112#	37.1	4:2,1.1	⌜κεκαυστηριασμενων
Total for Ex-112# = 2			
Ex-113#	11.3	1:16,1.3	2
Total for Ex-113# = 1			
Ex-114#	17.4	2:6,1.4	οὗ τ. μ.
Ex-114#	18.2	2:6,2.2	δοθη
Ex-114#	56.2	5:20,1.2	δε
Ex-114#	70.2	6:9,1.2	του διαβολου
Total for Ex-114# = 4			
Ex-116$	2.2	1:2,1.2	ημων
Ex-116$	5.2	1:8,1.2	χρησηται
Ex-116$	6.2	1:12,1.2	και
Ex-116$	7.2	1:12,2.2	—μουντι
Ex-116$	8.2	1:13,1.2	τον
Ex-116$	10.2	1:15,1.2	ανθρωπινος
Ex-116$	12.3	1:17,1.3	αφθ. αορ. αθαν.
Ex-116$	14.2	1:18,1.2	—ευση
Ex-116$	25.2	2:9,3.2	ἤ
Ex-116$	26.2	2:9,4.2	—σω
Ex-116$	30.2	3:7,1.2	αυτον
Ex-116$	37.2	4:2,1.2	και καυτ—
Ex-116$	38.2	4:6,1.2	ης
Ex-116$	39.2	4:6,2.2	—θησας
Ex-116$	47.2	5:4,2.2	καλον και
Ex-116$	49.2	5:8,1.2	των
Ex-116$	54.2	5:18,2.2	της τροφης
Ex-116$	58.1	5:21,2.1	⌜προσκλισιν
Ex-116$	59.2	5:23,1.2	σου
Ex-116$	60.2	5:25,1.2	δε
Ex-116$	63.2	6:4,1.2	γεννωνται
Ex-116$	68.2	6:7,1.2	αληθες οτι

Ex-116$	72.2	6:10,1.2	ποικιλαις
Ex-116$	74.2	6:11,2.2	πρατητα
Ex-116$	75.2	6:12,1.2	και
Ex-116$	76.1	6:13,1.1	°σοι
Ex-116$	79.2	6:13,4.2	2 1
Ex-116$	81.2	6:17,1.2	υψηλα φρ.
Ex-116$	84.2	6:19,1.2	αιωνιου
Ex-116$	87.2	6:21,2.2	αμην
Total for Ex-116$ = 30			
Ex-117$	4.2	1:4,2.2	οικοδομην
Ex-117$	9.2	1:13,2.2	με
Ex-117$	11.2	1:16,1.2	⌢ 2 1
Ex-117$	13.2	1:17,2.2	σοφω
Ex-117$	15.2	2:1,1.2	—κάλει
Ex-117$	20.2	2:7,2.2	εν Χριστω
Ex-117$	23.3	2:9,1.3	και τας
Ex-117$	25.3	2:9,3.3	—
Ex-117$	28.2	3:1,1.2	ανθρωπινος
Ex-117$	29.2	3:3,1.2	μη αισχροκερδη
Ex-117$	34.2	3:16,1.2	ὁμολογοῦμεν ὡς
Ex-117$	40.2	4:10,1.2	και
Ex-117$	42.2	4:10,3.2	—ισαμεν
Ex-117$	45.2	4:15,1.2	εν
Ex-117$	46.2	5:4,1.2	—ετω
Ex-117$	48.2	5:5,1.2	τον κυριον
Ex-117$	51.2	5:16,1.2	πιστος ἤ
Ex-117$	64.2	6:4,2.2	φθονοι
Ex-117$	67.2	6:5,2.2	αφιστασο απο των τοιουτων
Ex-117$	68.3	6:7,1.3	δηλον οτι
Ex-117$	78.2	6:13,3.2	ζωοποιουντος
Ex-117$	80.2	6:16,1.2	και
Ex-117$	83.2	6:17,3.2	τω ζωντι
Total for Ex-117$ = 23			
Ex-119$	16.2	2:3,1.2	γαρ
Ex-119$	22.2	2:8,1.2	—γισμων
Ex-119$	23.2	2:9,1.2	⌢—

Ex-119$	24.2	2:9,2.2	—ιως
Ex-119$	32.2	3:14,1.2	□ ομιτ
Ex-119$	33.2	3:14,2.2	⌒ ταχιον
Ex-119$	35.3	3:16,2.3	θεος
Ex-119$	36.2	4:1,1.2	νης
Ex-119$	41.2	4:10,2.2	ονειδιζομεθα
Ex-119$	44.2	4:14,1.2	—ρου
Ex-119$	50.2	5:8,2.2	—ειται
Ex-119$	52.2	5:16,2.2	—εισθω
Ex-119$	53.2	5:18,1.2	3 4 1 2
Ex-119$	55.2	5:19,1.2	□ ομιτ
Ex-119$	57.3	5:21,1.3	2 1
Ex-119$	61.2	5:25,2.2	—ναται
Ex-119$	62.2	6:3,1.2	προσεχεται
Ex-119$	65.2	6:4,3.2	ερεις
Ex-119$	68.4	6:7,1.4	—
Ex-119$	69.2	6:8,1.2	διατροφην
Ex-119$	71.2	6:9,2.2	ανονητους
Ex-119$	73.2	6:11,1.2	του
Ex-119$	82.1	6:17,2.1	⌜ἐπι
Ex-119$	85.2	6:20,1.2	καινοφ—
Ex-119$	86.2	6:21,1.2	μετα σου
Total for Ex-119$ = 25			

Appendix H

Every Place Where a Variant is Initiated

in the Textual History of 1 Timothy

Arranged in Order by Reference

This appendix lists every place a variant is introduced into the textual history of 1 Timothy either initially or later by mixture. The information is arranged in order by reference as follows: (1) place of variation, (2) reference, (3) witness(es) where variant was initiated. Those witnesses enclosed in square brackets [] are places where the variant was introduced by mixture; those not enclosed are where the variant first originated. The number enclosed in <>; is the generation of the preceding witness. For example, the following line means:

| 3.2 | 1:4,1.2 | Autograph; |

(1) 3.2 refers to the second variant in variation unit 3.

(2) 1:4,1.2 is the reference where this place of variation occurs: chapter 1, verse 4, the first place of variation in this verse, the second variant there.

(3) *Autograph* means that the variant was initiated in the autograph and nowhere else.

Since the variant was first initiated in an exemplar, one can presume that the variant was inherited by all of the descendants of the autograph unless otherwise altered in one of its subsequent branches.

The following line means:

| 17.4 | 2:6,1.4 | [104*%]<2>; [it-m^c%]<2>; Ex-114#<1>; |

(1) 17.4 refers to the fourth variant in variation unit 17.

(2) 2:8,1.4 is the reference where this place of variation occurs: chapter 2, verse 8, the first place of variation in this verse, the fourth variant there.

(3) The variant was first initiated in exemplar Ex-114#, and subsequently initiated by mixture in [104*%]<2>; [it-m^c%]<2>.

(4) Since the variant was first initiated in an exemplar, one may safely assume that the variant was inherited by all of the descendants of that exemplar unless otherwise altered in one of its subsequent branches.

1.1	1:1,1.1	Autograph;
1.2	1:1,1.2	Ex-101<3>;
2.1	1:2,1.1	[vg^a]<4>; [vg^ww]<4>; Autograph;
2.2	1:2,1.2	[it-ar*]<4>; [sa^a%]<2>; [bo^b%]<2>; [Ex-100]<3>; [Ex-102]<3>; Ex-116$<1>;
3.1	1:4,1.1	Ex-112#<1>;
3.2	1:4,1.2	Autograph;
4.1	1:4,2.1	[D06^c%]<4>; [044*]<4>; Autograph;
4.2	1:4,2.2	[D06^2]<5>; [Ex-108]<3>; [Ex-111]<2>; Ex-117$<1>;
5.1	1:8,1.1	[81*]<3>; Autograph;
5.2	1:8,1.2	[P025*%]<2>; [Cl^a%]<4>; [Ex-97]<2>; Ex-116$<1>;
6.1	1:12,1.1	[6]<5>; Autograph;
6.2	1:12,1.2	[it-f*]<4>; [Ex-102]<3>; [Ex-107]<3>; Ex-116$<1>;
7.1	1:12,2.1	[01^c]<4>; Autograph;
7.2	1:12,2.2	[sa^a%]<2>; [Ex-105]<2>; Ex-116$<1>;
8.1	1:13,1.1	[6]<5>; Autograph;
8.2	1:13,1.2	[H015^c%]<3>; [vg^b]<4>; [it-ar*]<4>; [it-r%]<3>; [Ex-102]<3>; Ex-116$<1>;
9.1	1:13,2.1	[vg^a]<4>; [vg^b]<4>; [vg^ww]<4>; Autograph;
9.2	1:13,2.2	[Ex-97]<2>; [Ex-100]<3>; Ex-117$<1>;
10.1	1:15,1.1	Autograph;
10.2	1:15,1.2	[vg^b]<4>; [it-b*]<5>; [it-m*]<3>; [it-m^c%]<2>; [it-r%]<3>; [Ambst%]<4>; Ex-116$<1>;
11.1	1:16,1.1	[H015*%]<2>; [H015^c%]<3>; [326*]<5>; [629*]<5>; Autograph;
11.2	1:16,1.2	[vg^b]<4>; [it-ar*]<4>; [Ex-101]<3>; [Ex-102]<3>; Ex-117$<1>;
11.3	1:16,1.3	[Ex-110]<2>; Ex-113#<1>;
11.4	1:16,1.4	614*<5>;
12.1	1:17,1.1	[044*]<4>; Autograph;
12.2	1:17,1.2	Ex-111<2>;
12.3	1:17,1.3	[it-ar*]<4>; [it-m*]<3>; [it-m^c%]<2>; [it-r%]<3>; [Ex-110]<2>; Ex-116$<1>;
13.1	1:17,2.1	[vg^a]<4>; [vg^b]<4>; [vg^ww]<4>; Autograph;
13.2	1:17,2.2	[Epiph^a%]<2>; [Ex-100]<3>; [Ex-103]<2>; Ex-117$<1>;
14.1	1:18,1.1	Autograph;
14.2	1:18,1.2	[1175*%]<2>; [Ex-101]<3>; [Ex-111]<2>; Ex-116$<1>;
15.1	2:1,1.1	[D06^c%]<4>; [it-ar*]<4>; Autograph;
15.2	2:1,1.2	[vg^b]<4>; [Ex-107]<3>; [Ex-110]<2>; Ex-117$<1>;
16.1	2:3,1.1	[6]<5>; Autograph;
16.2	2:3,1.2	[H015*%]<2>; [H015^c%]<3>; [Ex-102]<3>; [Ex-114#]<1>; [Ex-116$]<1>; Ex-119$<1>;
17.1	2:6,1.1	[D06^c%]<4>; [81*]<3>; [vg^cl]<3>; [vg^st]<3>; [it-b*]<5>; [it-r%]<3>; [Ex-100]<3>; Autograph;
17.2	2:6,1.2	01*<4>;

17.3	2:6,1.3	Ex-97<2>;
17.4	2:6,1.4	[104*%]<2>; [it-m^c%]<2>; Ex-114#<1>;
18.1	2:6,2.1	[D06^c%]<4>; [vg^cl]<3>; [vg^s%]<3>; [vg^st]<3>; [Ex-100]<3>; Autograph;
18.2	2:6,2.2	[vg^b]<4>; Ex-114#<1>;
19.1	2:7,1.1	[81*]<3>; Autograph;
19.2	2:7,1.2	Ex-97<2>;
20.1	2:7,2.1	[01^2%]<4>; [6]<5>; [629*]<5>; [sy^h%]<4>; Autograph;
20.2	2:7,2.2	[H015*%]<2>; [H015^c%]<3>; [vg^b]<4>; [it-ar*]<4>; [Ex-102]<3>; [Ex-105]<2>; Ex-117$<1>;
21.1	2:7,3.1	Autograph;
21.2	2:7,3.2	Ex-101<3>;
21.3	2:7,3.3	Ex-97<2>;
22.1	2:8,1.1	[Ex-102]<3>; Autograph;
22.2	2:8,1.2	[01^2%]<4>; [33*]<3>; [81*]<3>; [104*%]<2>; [365%]<2>; [630%]<2>; [1505*%]<2>; [sy^h%]<4>; [Ex-110]<2>; [Ex-113#]<1>; [Ex-116$]<1>; Ex-119$<1>;
23.1	2:9,1.1	[01^2%]<4>; [6]<5>; [365%]<2>; [NA-27]<2>; Autograph;
23.2	2:9,1.2	[H015*%]<2>; [H015^c%]<3>; [Ex-112#]<1>; [Ex-116$]<1>; Ex-119$<1>;
23.3	2:9,1.3	[Ex-100]<3>; [Ex-103]<2>; Ex-117$<1>;
24.1	2:9,2.1	[it-ar*]<4>; [it-b*]<5>; [Ex-102]<3>; Autograph;
24.2	2:9,2.2	[01^2%]<4>; [33*]<3>; [365%]<2>; [Ex-107]<3>; [Ex-110]<2>; [Ex-113#]<1>; [Ex-116$]<1>; Ex-119$<1>;
25.1	2:9,3.1	[Ex-107]<3>; Autograph;
25.2	2:9,3.2	[H015*%]<2>; [H015^c%]<3>; [it-ar*]<4>; [it-b*]<5>; [it-d]<6>; [Cl^a%]<4>; [Ex-102]<3>; [Ex-108]<3>; [Ex-111]<2>; Ex-116$<1>;
25.3	2:9,3.3	[P025*%]<2>; [33*]<3>; Ex-117$<1>;
26.1	2:9,4.1	Autograph;
26.2	2:9,4.2	[Ex-101]<3>; [Ex-102]<3>; [Ex-111]<2>; Ex-116$<1>;
27.1	2:14,1.1	Autograph;
27.2	2:14,1.2	Ex-102<3>;
28.1	3:1,1.1	[01^2%]<4>; [D06^c%]<4>; [D06^1%]<4>; [D06^2]<5>; [it-ar*]<4>; [sy^h%]<4>; Autograph;
28.2	3:1,1.2	[it-g*]<4>; [Ex-102]<3>; [Ex-107]<3>; Ex-117$<1>;
29.1	3:3,1.1	[01^2%]<4>; [D06^1%]<4>; [D06^2]<5>; [sy^h%]<4>; Autograph;
29.2	3:3,1.2	[365%]<2>; [630%]<2>; [Ex-102]<3>; Ex-117$<1>;
30.1	3:7,1.1	[326*]<5>; Autograph;
30.2	3:7,1.2	[Ex-102]<3>; [Ex-107]<3>; Ex-116$<1>;
31.1	3:8,1.1	Autograph;
31.2	3:8,1.2	01*<4>;
32.1	3:14,1.1	[Ex-102]<3>; Autograph;
32.2	3:14,1.2	[6]<5>; [vg^b]<4>; [sa^a%]<2>; [Ex-110]<2>; [Ex-113#]<1>; [Ex-116$]<1>; Ex-119$<1>;

33.1	3:14,2.1	Autograph;
33.2	3:14,2.2	[Ex-101]<3>; [Ex-110]<2>; [Ex-113#]<1>; [Ex-116$]<1>; Ex-119$<1>;
34.1	3:16,1.1	[D06^c%]<4>; [it-ar*]<4>; [it-b*]<5>; Autograph;
34.2	3:16,1.2	[1175*%]<2>; [Ex-107]<3>; Ex-117$<1>;
35.1	3:16,2.1	[01^2%]<4>; [D06^c%]<4>; [D06^1%]<4>; [it-m*]<3>; [sy^h%]<4>; Autograph;
35.2	3:16,2.2	[vg^a]<4>; [vg^ww]<4>; [Ex-108]<3>; Ex-111<2>;
35.3	3:16,2.3	[A^c]<3>; [Ex-100]<3>; [Ex-101]<3>; [Ex-113#]<1>; [Ex-117$]<1>; Ex-119$<1>;
36.1	4:1,1.1	[Ex-107]<3>; Autograph;
36.2	4:1,1.2	[P025*%]<2>; [104*%]<2>; [614*]<5>; [630%]<2>; [945]<4>; [it-ar*]<4>; [it-b*]<5>; [it-d]<6>; [Ex-108]<3>; [Ex-111]<2>; [Ex-116$]<1>; Ex-119$<1>;
37.1	4:2,1.1	Ex-112#<1>;
37.2	4:2,1.2	[F*]<4>; [0241%]<2>; [vg^a]<4>; [vg^b]<4>; [vg^cl]<3>; [vg^s%]<3>; [vg^st]<3>; [vg^ww]<4>; [it-ar*]<4>; [it-b*]<5>; [it-f*]<4>; [it-m*]<3>; [sy^p%]<2>; Ex-116$<1>;
37.3	4:2,1.3	[33*]<3>; [Cl^a%]<4>; Autograph;
38.1	4:6,1.1	[81*]<3>; Autograph;
38.2	4:6,1.2	[365%]<2>; [Ex-97]<2>; Ex-116$<1>;
39.1	4:6,2.1	Autograph;
39.2	4:6,2.2	[C*%]<2>; [Ex-110]<2>; Ex-116$<1>;
40.1	4:10,1.1	[D06^1%]<4>; [D06^2]<5>; [6]<5>; [sy^h%]<4>; Autograph;
40.2	4:10,1.2	[Ex-103]<2>; [Ex-110]<2>; Ex-117$<1>;
41.1	4:10,2.1	[044*]<4>; [326*]<5>; [Ambst%]<4>; Autograph;
41.2	4:10,2.2	[0241%]<2>; [sa^a%]<2>; [sa^b%]<2>; [bo^a%]<2>; [bo^b%]<2>; [Ex-108]<3>; [Ex-111]<2>; [Ex-113#]<1>; [Ex-117$]<1>; Ex-119$<1>;
42.1	4:10,3.1	[D06^c%]<4>; [it-ar*]<4>; [it-b*]<5>; Autograph;
42.2	4:10,3.2	[33*]<3>; [Ex-107]<3>; Ex-117$<1>;
43.1	4:12,1.1	[D06^1%]<4>; [D06^2]<5>; [6]<5>; [629*]<5>; [sy^h%]<4>; Autograph;
43.2	4:12,1.2	Ex-102<3>;
44.1	4:14,1.1	Autograph;
44.2	4:14,1.2	[01*]<4>; [1881^c%]<2>; [69]<5>; [Ex-116$]<1>; Ex-119$<1>;
45.1	4:15,1.1	[6]<5>; [vg^a]<4>; [vg^ww]<4>; Autograph;
45.2	4:15,1.2	[Ex-100]<3>; [Ex-103]<2>; Ex-117$<1>;
46.1	5:4,1.1	[01^2%]<4>; [D06^1%]<4>; [D06^2]<5>; [sy^h%]<4>; Autograph;
46.2	5:4,1.2	[vg^cl]<3>; [it-d]<6>; [it-f*]<4>; [Ambst%]<4>; [Spec%]<4>; [Ex-102]<3>; Ex-117$<1>;
47.1	5:4,2.1	Autograph;
47.2	5:4,2.2	[323*]<5>; [365%]<2>; [945]<4>; [TR]<4>; [sa^b%]<2>; [bo^a%]<2>; Ex-116$<1>;
48.1	5:5,1.1	[it-ar*]<4>; [it-b*]<5>; Autograph;
48.2	5:5,1.2	[81*]<3>; [vg^b]<4>; [Ex-105]<2>; [Ex-107]<3>; Ex-117$<1>;
49.1	5:8,1.1	Autograph;
49.2	5:8,1.2	[C*%]<2>; [Ex-103]<2>; Ex-116$<1>;

50.1	5:8,2.1	[C*%]<2>; [Ex-100]<3>; Autograph;
50.2	5:8,2.2	[I%]<2>; [K*%]<2>; [104*%]<2>; [1881*]<3>; [Ex-101]<3>; [Ex-114#]<1>; [Ex-116$]<1>; Ex-119$<1>;
51.1	5:16,1.1	[vg^a]<4>; [it-m*]<3>; Autograph;
51.2	5:16,1.2	[Ex-102]<3>; [Ex-111]<2>; Ex-117$<1>;
52.1	5:16,2.1	[NA-27]<2>; Autograph;
52.2	5:16,2.2	[Ex-110]<2>; [Ex-112#]<1>; [Ex-116$]<1>; Ex-119$<1>;
53.1	5:18,1.1	[NA-27]<2>; [Ex-101]<3>; Autograph;
53.2	5:18,1.2	[C*%]<2>; [I%]<2>; [048%]<3>; [it-ar*]<4>; [it-b*]<5>; [Ambst%]<4>; [Ex-108]<3>; [Ex-111]<2>; [Ex-112#]<1>; [Ex-117$]<1>; Ex-119$<1>;
53.3	5:18,1.3	Ex-107<3>;
54.1	5:18,2.1	Autograph;
54.2	5:18,2.2	[01*]<4>; [it-ar*]<4>; [Cl^a%]<4>; Ex-116$<1>;
55.1	5:19,1.1	Autograph;
55.2	5:19,1.2	[it-b*]<5>; [Ambst%]<4>; [Pel%]<4>; [Ex-116$]<1>; Ex-119$<1>;
56.1	5:20,1.1	[vg^cl]<3>; [vg^s%]<3>; [vg^st]<3>; [it-r%]<3>; [Ex-100]<3>; Autograph;
56.2	5:20,1.2	[1175*%]<2>; [Ex-97]<2>; Ex-114#<1>;
57.1	5:21,1.1	[629*]<5>; [vg^a]<4>; [vg^b]<4>; [vg^ww]<4>; Autograph;
57.2	5:21,1.2	Ex-102<3>;
57.3	5:21,1.3	[F*]<4>; [630%]<2>; [1175*%]<2>; [it-f*]<4>; [bo^b%]<2>; [Ex-100]<3>; [Ex-113#]<1>; [Ex-117$]<1>; Ex-119$<1>;
58.1	5:21,2.1	[K*%]<2>; [81*]<3>; [630%]<2>; [1881*]<3>; [TR]<4>; [vg^a]<4>; [vg^b]<4>; [vg^cl]<3>; [vg^s%]<3>; [vg^st]<3>; [vg^ww]<4>; [it-ar*]<4>; [it-b*]<5>; [it-m*]<3>; [it-r%]<3>; [sy^h%]<4>; [NA-27]<2>; [Ex-101]<3>; [Ex-110]<2>; Ex-116$<1>;
58.2	5:21,2.2	Autograph;
59.1	5:23,1.1	Autograph;
59.2	5:23,1.2	[vg^a]<4>; [vg^cl]<3>; [vg^s%]<3>; [vg^st]<3>; [vg^ww]<4>; [it-ar*]<4>; [Cl^a%]<4>; [Ex-102]<3>; [Ex-110]<2>; Ex-116$<1>;
60.1	5:25,1.1	Autograph;
60.2	5:25,1.2	[vg^b]<4>; [it-ar*]<4>; [it-m^c%]<2>; [Ex-97]<2>; [Ex-110]<2>; Ex-116$<1>;
61.1	5:25,2.1	[01^2%]<4>; [D06^1%]<4>; [D06^2]<5>; [048%]<3>; [1881*]<3>; [sy^h%]<4>; Autograph;
61.2	5:25,2.2	[L020*%]<2>; [1241*%]<2>; [1505*%]<2>; [Ex-101]<3>; [Ex-110]<2>; [Ex-113#]<1>; [Ex-117$]<1>; Ex-119$<1>;
62.1	6:3,1.1	[044*]<4>; [Ex-107]<3>; Autograph;
62.2	6:3,1.2	[01*]<4>; [it-ar*]<4>; [it-b*]<5>; [it-d]<6>; [Ex-108]<3>; [Ex-111]<2>; [Ex-116$]<1>; Ex-119$<1>;
63.1	6:4,1.1	[044*]<4>; Autograph;
63.2	6:4,1.2	[Ex-108]<3>; [Ex-111]<2>; Ex-116$<1>;
64.1	6:4,2.1	[D06^c%]<4>; [044*]<4>; Autograph;
64.2	6:4,2.2	[bo^a%]<2>; [Ex-108]<3>; [Ex-111]<2>; Ex-117$<1>;
65.1	6:4,3.1	Autograph;

65.2	6:4,3.2	[D06^1%]<4>; [D06^2]<5>; [L020*%]<2>; [6]<5>; [81*]<3>; [365%]<2>; [629*]<5>; [1175*%]<2>; [sy^h%]<4>; [sa^a%]<2>; [bo^a%]<2>; [Ex-114#]<1>; [Ex-116$]<1>; Ex-119$<1>;
66.1	6:5,1.1	[D06^c%]<4>; [it-ar*]<4>; [it-b*]<5>; Autograph;
66.2	6:5,1.2	Ex-107<3>;
66.3	6:5,1.3	365%<2>;
67.1	6:5,2.1	[6]<5>; [vg^a]<4>; [vg^ww]<4>; Autograph;
67.2	6:5,2.2	[it-ar*]<4>; [it-b*]<5>; [Ambst%]<4>; [Cyp^a%]<3>; [Ex-100]<3>; [Ex-102]<3>; Ex-117$<1>;
68.1	6:7,1.1	[it-r%]<3>; Autograph;
68.2	6:7,1.2	[vg^b]<4>; [Ex-107]<3>; Ex-116$<1>;
68.3	6:7,1.3	[it-f*]<4>; [it-m^c%]<2>; [Ex-102]<3>; [Ex-111]<2>; Ex-117$<1>;
68.4	6:7,1.4	[sa^a%]<2>; [sa^b%]<2>; [bo^a%]<2>; [bo^b%]<2>; [Hier^a%]<2>; [Ex-118$]<1>; Ex-119$<1>;
69.1	6:8,1.1	[vg^cl]<3>; [vg^s%]<3>; [vg^st]<3>; [it-f*]<4>; [Ex-100]<3>; Autograph;
69.2	6:8,1.2	[D06^1%]<4>; [D06^2]<5>; [K*%]<2>; [P025*%]<2>; [sy^p%]<2>; [sa^a%]<2>; [sa^b%]<2>; [bo^a%]<2>; [bo^b%]<2>; [Ex-109]<2>; [Ex-114#]<1>; [Ex-116$]<1>; Ex-119$<1>;
70.1	6:9,1.1	[D06^c%]<4>; [vg^s%]<3>; [vg^st]<3>; [Ex-100]<3>; Autograph;
70.2	6:9,1.2	[629*]<5>; Ex-114#<1>;
71.1	6:9,2.1	[044*]<4>; [Ex-107]<3>; Autograph;
71.2	6:9,2.2	[629*]<5>; [it-ar*]<4>; [it-b*]<5>; [it-d]<6>; [Ex-108]<3>; [Ex-111]<2>; [Ex-116$]<1>; Ex-119$<1>;
72.1	6:10,1.1	Autograph;
72.2	6:10,1.2	[01*]<4>; [H015*%]<2>; [H015^c%]<3>; Ex-116$<1>;
73.1	6:11,1.1	Autograph;
73.2	6:11,1.2	[H015*%]<2>; [H015^c%]<3>; [Ex-102]<3>; [Ex-114#]<1>; [Ex-116$]<1>; Ex-119$<1>;
74.1	6:11,2.1	Autograph;
74.2	6:11,2.2	[33*]<3>; [Ex-102]<3>; [Ex-111]<2>; Ex-116$<1>;
75.1	6:12,1.1	Autograph;
75.2	6:12,1.2	[81*]<3>; [1505*%]<2>; [TR]<4>; Ex-116$<1>;
76.1	6:13,1.1	[H015*%]<2>; [vg^a]<4>; [vg^b]<4>; [vg^cl]<3>; [vg^s%]<3>; [vg^st]<3>; [vg^ww]<4>; [it-r%]<3>; [sa^b%]<2>; [bo^a%]<2>; [NA-27]<2>; [Ex-97]<2>; [Ex-103]<2>; [Ex-107]<3>; Ex-116$<1>;
76.2	6:13,1.2	[6]<5>; Autograph;
77.1	6:13,2.1	Autograph;
77.2	6:13,2.2	Ex-101<3>;
78.1	6:13,3.1	[D06^1%]<4>; [D06^2]<5>; Autograph;
78.2	6:13,3.2	[Ex-101]<3>; [Ex-102]<3>; Ex-117$<1>;
79.1	6:13,4.1	Autograph;
79.2	6:13,4.2	[326*]<5>; [sy^p%]<2>; [Tert^a%]<4>; [Ex-101]<3>; [Ex-110]<2>; Ex-116$<1>;

80.1	6:16,1.1	[D06^c%]<4>; [vg^s%]<3>; [vg^st]<3>; [Ex-100]<3>; Autograph;
80.2	6:16,1.2	[629*]<5>; [Ex-111]<2>; Ex-117$<1>;
81.1	6:17,1.1	Autograph;
81.2	6:17,1.2	[I%]<2>; [048%]<3>; [Ex-105]<2>; Ex-116$<1>;
82.1	6:17,2.1	[NA-27]<2>; [Or^a%]<3>; [Ex-101]<3>; [Ex-114#]<1>; [Ex-116$]<1>; Ex-119$<1>;
82.2	6:17,2.2	[6]<5>; [629*]<5>; [Did^a%]<2>; [Ex-100]<3>; Autograph;
82.3	6:17,2.3	Ex-102<3>;
83.1	6:17,3.1	[6]<5>; [vg^st]<3>; [Ex-100]<3>; Autograph;
83.2	6:17,3.2	[it-m^c%]<2>; [bo^b%]<2>; [Ex-102]<3>; [Ex-111]<2>; Ex-117$<1>;
84.1	6:19,1.1	[sy^h%]<4>; Autograph;
84.2	6:19,1.2	[bo^b%]<2>; [Ex-103]<2>; Ex-116$<1>;
84.3	6:19,1.3	1175*%<2>;
85.1	6:20,1.1	[044*]<4>; [Ex-107]<3>; Autograph;
85.2	6:20,1.2	[it-ar*]<4>; [it-b*]<5>; [it-d]<6>; [Ex-114#]<1>; [Ex-116$]<1>; Ex-119$<1>;
86.1	6:21,1.1	Autograph;
86.2	6:21,1.2	[bo^a%]<2>; [Ex-108]<3>; [Ex-111]<2>; [Ex-113#]<1>; [Ex-116$]<1>; Ex-119$<1>;
87.1	6:21,2.1	Autograph;
87.2	6:21,2.2	[1739^c]<3>; [vg^cl]<3>; [it-f*]<4>; [bo^a%]<2>; [Ambst%]<4>; [Ex-100]<3>; [Ex-102]<3>; Ex-116$<1>;

GLOSSARY OF TERMS

Boldfaced words in the following definitions refer to other terms defined in this glossary.

Affinity: the degree to which two **witnesses** to a text have the same readings. Affinity consists of two components: **Quantitative Affinity** and **Genetic Affinity**.

Antiquity: the characteristic of a **reading** being older than the **witness** in which it occurs. An inherited reading has antiquity, that is, it is older than the witness in which it occurs. See **inheritance**. A newly initiated reading lacks antiquity, that is, it is only as old as the witness in which it originated. A reading introduced by mixture is only as old as its age in its source of mixture. In the reconstruction process, the software recognizes the antiquity of a reading by its presence in other witnesses in the active database.

Autograph: The original document written by the hand of its author or by his secretary to whom he dictated its text.

Autographic Text: The words originally written in an original document.

Commonness: A measure of the degree to which **witnesses** to a given text share the same value of a genetic characteristic of the text. See Commonness of Place of Variation and Commonness of Reading.

Commonness of Place of Variation: The degree to which two **witnesses** to a given text have the same **places of variation** regardless of the **readings** at those places—that is, they share a common portion of the text. The Commonness of Place of Variation of A with B = the number of **places of variation** where both A and B have a **reading**, where A and B are **witnesses** to the same text. This measure is important for dealing with fragmentary **witnesses**. Two **witnesses** that both have a complete text have 100% Commonness of Place of Variation.

Commonness of Readings: A measure of the degree to which two **witnesses** to a text have the same **readings**. It is calculated as follows: The Commonness of Readings of A with B = the number of **places of variation** where both A and B have the same **reading**, where A and B are **witnesses** to the same text.

Completeness: A measure of how much of a text a particular **witness** contains. It is calculated as follows: The Completeness of A = (the number of **places of variation** A has of the text) ÷ (the total number of **places of variation** in the text), where A is a **witness** to the text. This measure is important for dealing with fragmentary **witnesses**.

Content: A list of the **places of variation** a **witness** contains, expressed in terms of references (chapter and verse)—that is, that portion of the text the **witness** contains.

Deferred Ambiguity: The principle of deferred ambiguity states that when consensus fails to recover a reading of an exemplar being reconstructed, the sister of that exemplar will have the inherited reading in the next prior generation.

Distribution: the characteristic of a **reading** occurring in more than one text tradition. An original reading occurs in more than one first-generation exemplar. An original reading is expected to have both first-generation distribution and antiquity.

Exemplar: A **witness** from which other **witnesses** have been copied. The software creates exemplars in the process of reconstructing the genealogical history of a text.

Fragment: A **witness** that is missing part of its text due to damage or deterioration.

Genetic Affinity: see **Quantitative Affinity**.

Genetic Dominance: A **reading** has genetic dominance as long as it is inherited by the **descendants** of the exemplar in which it first occurs. It loses genetic dominance at any place in the genetic history of the exemplar in which it occurs where an alternate reading replaces it.

Heredity: That characteristic of a **reading** correctly copied into a daughter **witness** of the **exemplar** in which the reading is found.

Inheritable Variant: A variant initiated by one of the ancestor exemplars of a witness.

Inheritance: That characteristic of a **reading** correctly copied from the parent **exemplar** of the **witness** in which the reading is found. An inherited reading is passed down from prior ancestor exemplars.

Inheritance Persistence: The inheritance persistence of a witness is the ratio of the number inheritable variants to the number of actually inherited ones.

Lectionary: A **manuscript** edited and arranged in sections assigned for reading in the Church at specified times in the liturgical calendar—something like a hymnbook.

Majuscule: A **manuscript** written in all capital letters.

Manuscript: A handwritten copy of a text made from an earlier copy (**exemplar**). The term is sometimes used as a synonym of *witness*.

Minimal Reading: The reading of a witness that occurs least often in the working database.

Minuscule: A **manuscript** written in lower case characters.

Papyri: Manuscripts copied on paper made from papyrus. They are usually rather early, but mostly fragmentary.

Parent Exemplar: The **manuscript** from which another **manuscript** was directly copied.

Place of Variation: A place in a text where the **witnesses** to the text have different **readings**. In the data base, each place of variation is assigned a sequential index number in order to distinguish them from one another; each one also has assigned to it the chapter and verse where it occurs in the text.

Primary Parent: The **parent exemplar** of a **witness** from which it derives most of its readings, and its place in the tree diagram that maps the genealogical history of the text. A witness has only one primary parent exemplar.

Quantitative Affinity: A measure of the degree to which **witnesses** to a given text are genetically related. The mutual quantitative affinity between two witnesses is the inverse ratio of the number of places the two witnesses have the same readings to the number of places their readings are different.

Reading: At each **place of variation** in a text, the **witnesses** have different words. The words contained in a given witness at a particular **place of variation** constitute the *reading* of that witness at that place. The reading may be a word, phrase, sentence, verse, etc., or nothing at all (an omission).

Recension: A recension is understood to be a **witness** derived from multiple sources and having a significant number of variations from its **primary parent exemplar**. A recension was a deliberate alteration of a text tradition for the purpose of correction or improvement. A recension occurred when a Christian community noted that their Bibles (**manuscripts**) had different **readings**, and there was an attempt to recover the readings of the **autograph**. This likely took place under the authority of the leadership of the community and was carried out by competent scribes. It is possible that in some recensions some of the corrections were made to strengthen the doctrines of the community.

Secondary Descendant: A descendant of a **secondary parent** functioning as a source of mixture for the given descendant.

Secondary Parent: A **parent exemplar** of a witness other than the **Primary Parent Exemplar**. Secondary parents are the sources of mixture for their **secondary descendants**.

Siblings: Sisters, first generation descendants (copies) of the same **exemplar**.

Sibling Gene: The collection of **minimal readings** a **witness** has that occur only in it and its **sibling** sisters. These are the readings where the text of the parent exemplar of the siblings differs from the text of its genealogical ancestors**.**

Stemma: A tree diagram of the genealogical relationships of the witnesses to the text of an ancient literary composition.

Stematics: Stematics is the method used for recovering the original text of the ancient Greek and Latin classics, also known as the family-tree method.

Uncial: A **manuscript** written in all capital letters.

Variant Heredity: The characteristic of variant readings that provides a measure of the likelihood that a given reading in a particular witness A has been inherited from another witness B in an earlier generation. It is quantified as the **genetic distance** between witness A containing the given reading and another witness B in an earlier generation containing the same reading. The witness B having the least genetic distance from witness A is the closest near relative of A with respect to the given reading. A reading has no variant heredity until after it is first initiated somewhere in the genealogical history of the text.

Variant Reading: See *Reading*.

Variation Unit: See *Place of Variation*.

Version: A translation of a document into a language other than that of the original document itself.

Virtual Exemplar: An **exemplar** created by the software to account for same-generation mixture. These exemplars do not contribute to the primary structure of the tree diagram.

Witness: A **manuscript** of a document in its original language, or a translation of that document into another language, or a quotation of the text of a **manuscript** or translation.

BIBLIOGRAPHY

Aland, Kurt, and Barbara Aland. *The Text of the New Testament*, trans. by Erroll F. Rhodes. Grand Rapids: Wm. B. Eerdmans Publishing Co., 1987.

_____, and others. "The International Greek New Testament Project: A Status Report," *JBL* 87.2 (1968) 187-197.

Carlson, Stephen C. "The Origin(s) of the 'Caesarean' Text," a paper presented at the Society of Biblical Literature in 2005.

_____. "The Text of Galatians and Its History," a Ph.D. dissertation, Graduate Program in Religion, Duke University, 2012.

Colwell, Ernest C. "Genealogical Method: Its Achievements and its Limitations," *Journal of Biblical Literature* 66 (1947).

Dearing, V. A. *Principles and Practices of Textual Analysis.* University of California Press, 1974.

_____. "Textual Analysis: A Consideration of Some Questions Raised by M. P. Weitzman," *Vetus Testamentum*, 29.3 (1979) 355-359.

Ehrman, Bart D. *The Orthodox Corruption of Scripture.* New York: Oxford University Press, 1993.

Epp, E. J. "The Claremont Profile-Method for Grouping New Testament Minuscule Manuscripts," in B. L. Daniels and M. J. Suggs, eds., *Studies in the History and Text of the New Testament*, vol. 29 of Studies and Documents. Salt Lake City: 1967; 27-38.

Froger, Dom J. *La critique des textes et son automatisation.* Paris, 1968.

_____. "La critique des textes et L'ordinateur," *Viligante Christianae,* 24.3 (1970) 210-217.

Griffith, J. G. "Numerical Taxonomy and Some Primary Manuscripts of the Gospels," *JTS* 20 pt. 2 (1969) 389-406.

Harary, Frank. *Graph Theory.* Reading, MA: Addison-Wesley, 1969.

Hardmeier, Christof, Eep Talstra, and Bertram Salzmann. *The Stuttgart Electronic Study Bible* (Stuttgart, Germany: The German Bible Society, 2004).

Hennig, Willi. *Phylogenetic Systematics* (English trans. and extensively rev., D. Dwight Davis & Rainer Zangerl). Urbana: U. Ill. Press, 1966.

Hodges Zane C. and Arthur L. Farstad, *The Greek New Testament According to the Majority Text.* Nashville: Thomas Nelson Publishers, 1982.

Nestle-Aland Novum Textamentum Graece, 27th edition. Stuttgart: German Bible Society, 1993.

Maas, Paul. *Textual Criticism*, translated from the German by Barbara Flower. Oxford: The Clarendon Press, 1958.

McReynolds, P. "The Value and Limitations of the Claremont Profile Method," *SBL*, Book of Seminar Papers (Sept 1972) 1.1-7.

Metzger, Bruce M. *A Textual Commentary on the Greek New Testament.* New York: The United Bible Societies, 1971.

_____. *The Text of the New Testament: Its Transmission, Corruption, and Restoration*, 3rd enlarged edition. New York: Oxford University Press, 1992.

Metzger, Bruce M. and Bart D. Ehrman. *The Text of the New Testament: Its Transmission, Corruption, and Restoration*, 4th ed. New York: Oxford University Press, 2005.

Mink, Gerd. "Contamination, Coherence, and Coincidence in Textual Transmission: The Coherence-Based Genealogical Method (CBGM) as a Complement and Corrective to Existing Approaches," in *The Textual History of the Greek New Testament: Changing Views in Contemporary Research*, eds. Klaus Wachtel and Michael Holmes. Atlanta: Society of Biblical Research, 2011.

Novum Testamentum Graece. Stuttgart: Deutsche Bibelgesellschaft, 1997.

Pickering, Wilbur N. *The Identity of the New Testament Text*, 2nd edition. Nashville: Thomas Nelson Publishers, 1980.

Platnick, Nelson I. and H. Don Cameron, "Cladistic Methods in Textual, Linguistic, and Phylogenetic Analysis," *Sys. Zool.* 26 (1977): 380-385.

Poole, Eric. "The Computer in Determining Stemmatic Relationships," *Computers and the Humanities*, 8 (1974) 207-216.

Price, James D. "A Computer Aid for Textual Criticism," *Grace Theological Journal* 8.1 (1987) 115-30.

_____. "A Computer-Aided Textual Commentary on the Book of Philippians," *Grace Theological Journal* 8.2 (1987) 253-90.

Rahlfs, Alfred. *Septuaginta*, II vols. 6th ed. Stuttgart: Deutsche Bibelgesellschaft, nd.

Richards, W. L. *The Classification of the Greek Manuscripts of the Johannine Epistles. SBLDS* 35; Missoula: Scholars Press for *SBL*, 1977.

_____. "A Critique of a New Testament Text-Critical Methodology–The Claremont Profile Method," *JBL* 96 (1977) 555-556.

Robinson, Maurice A. and William G. Pierpont. *The New Testament in the Original Greek, Byzantine Textform.* Southborough, Massachusetts: Chilton Book Publishing, 2005.

Robinson, Peter M. W. "Computer-Assisted Stemmatic Analysis and 'Best-Text' Historical Editing," in Pieter van Reenen & Margot van Mulken, eds., *Studies in Stemmatology.* Amsterdam: Benjamins, 1996.

Robinson, Peter M. W. and Robert J. O'Hara, "Report on the Textual Criticism Challenge 1991," *Bryn Mawr Classical Review* 3 (1992): 331-337.

Scrivener, F. H. A. *Η ΚΑΙΝΗ ΔΙΑΘΗΚΗ: The New Testament, The Greek Text Underlying the English Authorized Version of 1611.* London: The Trinitarian Bible Society, n.d.; reprint of the Cambridge University edition of 1902.

Wachtel, Klaus. "Conclusions," in *The Textual History of the Greek New Testament: Changing Views in Contemporary Research*, eds. Klaus Wachtel and Michael Holmes. Atlanta: Society of Biblical Research, 2011.

Wisse, F. *The Profile Method for the Classification and Evaluation of Manuscript Evidence, as Applied to the Continuous Greek Text of the Gospel of Luke.* Grand Rapids: 1982.

Weitzman, M. P. *Vetus Testamentum.* 27.2 (1977) 225-235.

Zarri, Gian Piero. "Algorithms, *stemmata codicum*, and the Theories of Dom H. Quentin," in *The Computer and Literary Studies*, eds. A. J. Aitken, R. W. Bailey, and N. Hamilton-Smith (Edinburg, 1973), 225-238.

_____. "Some Experiments in Automated Textual Criticism," paper presented at the International Conference on Computers in the Humanities, Minneapolis, 1973.

_____. "A Computer Model for Textual Criticism?" in *The Computer In Literary and Linguistic Studies*, eds. Alan Jones and R. F. Churchhouse. Cardiff: 1976; 133-55.