# A Genealogical History of the Greek Text of the New Testament 

## Volume 19

# A Genealogical History of the Greek Text of the Book of Hebrews 

By

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## CHAPTER 1 INTRODUCTION

This book is the nineteenth 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 Hebrews. 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 place of variation to decide which reading is more likely original. But with the development of

[^0]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 reconstructed 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 the genealogical stemma into a single exemplar representing the autographic 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 genealogical 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 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

[^1]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 $27^{\text {th }}$ 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 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

[^2]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 Hebrews.

## CHAPTER 2 <br> WITNESSES TO THE TEXT OF HEBREWS

The witnesses ${ }^{1}$ to the text of the Book of Hebrews 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 135 existing witness ${ }^{3}$ of various types:
(1) Papyrus manuscripts 8
(2) Uncial manuscripts 27
(3) Minuscule manuscripts 51
(4) Lectionary manuscripts 2
(6) Latin Versions 12
(7) Egyptian Versions 4
(8) Syriac Versions 2
(14) Greek Church Fathers 12
(15) Latin Church Fathers 9
(16) Printed Editions $\quad 8^{4}$

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

[^3]
## 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 135 witnesses to the Book of Hebrews 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 Hebrews 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 Hebrews range from the third to the twenty-first centuries. ${ }^{6}$ Table 2.1 and its associated graph display the reasonably good distribution of the witnesses by date.

## Completeness

Many of the witnesses are fragmentary, not all their text having survived the passage of time. Only 48 of the 135 witnesses have $96-100 \%$ of their text complete, and only 67 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.

[^4]
## Table 2.1:

Distribution of Extant
Witnesses by Century:

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



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 <br> Witnesses |
| :---: | :---: |
| $0-5$ | 27 |
| $6-10$ | 1 |
| $11-15$ | 3 |
| $16-20$ | 2 |
| $21-25$ | 4 |
| $26-30$ | 2 |
| $31-35$ | 3 |
| $36-40$ | 1 |
| $41-45$ | 2 |
| $46-50$ | 2 |
| $51-55$ | 5 |
| $56-60$ | 4 |
| $61-65$ | 1 |
| $66-70$ | 5 |
| $71-75$ | 6 |
| $76-80$ | 3 |
| $81-85$ | 13 |
| $86-90$ | 0 |
| $91-95$ | 3 |
| $96-100$ | 48 |



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 third 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 Hebrews 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 $\mathbf{8 0 \%}$ or Greater Completeness by Century

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



But modern technology has expanded that limit to where reconstruction is now possible for texts the size and diversity of Hebrews. The NA-27 apparatus records 323 places of variation ${ }^{7}$ for the Book of Hebrews with a total of 739 variant readings distributed among them. ${ }^{8}$ This averaged out to 2.29 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, 251 places of variation have only two variations whereas only one place of variation has six variations.

[^5]Table 2.4
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 Hebrews they are D06* and its correctors, $\mathrm{vg}^{\wedge} \mathrm{b}, \mathrm{vg}^{\wedge} \mathrm{cl}, \mathrm{vg}^{\wedge} \mathrm{st}$, and it- d ; these each have an affinity with their parent exemplar of only $65-70 \%$.

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 Hebrews. 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 | 90 |
| :---: | :---: |
| Omit a phrase | 17 |
| Alternate word | 351 |
| Alternate words | 115 |
| Transposed words | 19 |
| Added word or phrase | 147 |
| Other | 0 |
| Total $=$ | 739 |

## 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 Hebrews.

## 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 Hebrews. It is evident that many of the extant witnesses to Hebrews 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.

[^6]Table 2.6
Distribution of Commonness of Text among Witnesses

| Common- <br> ness | Number <br> of wit- <br> ness <br> pairs |
| :---: | :---: |
| $0-5$ | 2687 |
| $6-10$ | 183 |
| $11-15$ | 296 |
| $16-20$ | 228 |
| $21-25$ | 330 |
| $26-30$ | 244 |
| $31-35$ | 252 |
| $36-40$ | 124 |
| $41-45$ | 209 |
| $46-50$ | 137 |
| $51-55$ | 353 |
| $56-60$ | 279 |
| $61-65$ | 166 |
| $66-70$ | 352 |
| $71-75$ | 360 |
| $76-80$ | 207 |
| $81-85$ | 646 |
| $86-90$ | 6 |
| $91-95$ | 139 |
| $96-100$ | 1128 |



## 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.

## Conclusion

There are sufficient witnesses to the text of the Book of Hebrews 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.

Table 2.7
Distribution of Quantitative Affinity
Among all Witnesses

| $\%$ <br> Affinity | Number of <br> Witnesses |
| :---: | :---: |
| $0-5$ | 1659 |
| $6--10$ | 0 |
| $11--15$ | 36 |
| $16-20$ | 166 |
| $21-25$ | 100 |
| $26-30$ | 56 |
| $31-35$ | 131 |
| $36-40$ | 158 |
| $41-45$ | 105 |
| $46-50$ | 368 |
| $51-55$ | 132 |
| $56-60$ | 219 |
| $61-65$ | 405 |
| $66-70$ | 685 |
| $71-75$ | 1,001 |
| $76-80$ | 1,080 |
| $81-85$ | 736 |
| $86-90$ | 803 |
| $91-95$ | 264 |
| $96-100$ | 941 |



## Table 2.8

Distribution of
Quantitative Affinity
Among Witnesses with
$\mathbf{8 0 \%}$ or Greater Content

| $\%$ Affin- <br> ity | Number <br> of Wit- <br> nesses |
| :---: | :---: |
| $0-5$ | 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 |
| $46-50$ | 30 |
| $51-55$ | 3 |
| $56-60$ | 16 |
| $61-65$ | 155 |
| $66-70$ | 119 |
| $71-75$ | 299 |
| $76-80$ | 176 |
| $81-85$ | 84 |
| $86-90$ | 117 |
| $91-95$ | 15 |
| $96-100$ | 364 |



# CHAPTER 3 <br> GENEALOGICAL HISTORY OF THE MANUSCRIPTS OF HEBREWS 

This chapter presents the genealogical history of the manuscripts ${ }^{1}$ of the Greek text of the Book of Hebrews as reconstructed by computer program Lachmann-10. ${ }^{2}$ Beginning with a data base of 135 existing witnesses, 323 places of variation, and 739 variants, the program reconstructed 23 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 Hebrews 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-151\#, Ex152\#, and Ex-156\#; 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 $84 \%$ to $88 \%$. But they have affinities with the autograph ranging from $90 \%$ to $96 \%$. 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.

[^7]|  | Ex-151 | Ex-152 | Ex-156 | Autograph |
| :---: | :---: | :---: | :---: | :---: |
| Ex-151 |  | $87 \%$ | $84 \%$ | $90 \%$ |
| Ex-152 | 36 |  | $88 \%$ | $96 \%$ |
| Ex-156 | 42 | 39 |  | $92 \%$ |
| Autograph | 27 | 14 | 25 |  |

Figure 3.1
Condensed Tree Diagram of Hebrews


## 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 Hebrews 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 Hebrews they are: Ex-151\#, Ex-152\#, and Ex-156\#. The text of the autograph is presented in Appendix D.

[^8]Figure 3.2
Condensed Genealogical Stemma-1 of Hebrews The Antiochan Recension


## The Antiochan Text Tradition

Figure 3.2 displays the fuller tree diagram of the genealogical history of the text of He brews. It displays the complete Antiochan branch headed by Exemplar Ex-156\#, but the complete branch of the Western branch is displayed in Figure 3.2a, and the complete branch if the Egyptian is displayed in Figure 3.2b. Exemplar Ex-156\# was the first-century recension (c. AD 80) from which the Antiochan witnesses were derived, including the subsequent Byzantine recensions; it has an affinity with the autograph of $92 \%$, differing from the autograph by 25 variants. I refer to this branch as the Antiochan text tradition because Syriac translations sy ${ }^{\wedge} \mathrm{h} \%$ and $\mathrm{sy}{ }^{\wedge} \mathrm{p} \%$ are found
within its branches. It has seven generations and is supported by the most recent witnesses as well as by numerous early witnesses. Its date is based on that of fourth-generation $\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}$ (c. AD 200). Family 13 MSS $13,69,346,543,788,826,828$, and 983 are descendants of sixth-generation Exemplar Ex-137. TR, HF, and RP found their best fit as descendants of fourth-generation Exemplar Ex-148.

Figure 3.2a
The Western Recension


## The Western Text Tradition

Figure 3.2a displays the expansion of the branch of the Western Recension, exemplar Ex151\#. Exemplar Ex-151\# was the first-generation recension from which the Western witnesses were derived; it has an affinity with the autograph of $90 \%$, differing from the autograph by 27 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 five generations and its date is based on that of second-generation $\mathrm{P}^{\wedge} 46^{*}$ (c. AD 200). It is interesting to note that $\mathrm{P}^{\wedge} 46^{*}$ is found in the Western text tradition and its corrector is found deep in the Antiochan tradition. Likewise, $\mathrm{B}^{\wedge} \mathrm{c} \%$ is found here, but $\mathrm{B}^{*}$ is found, as expected, in the Egyptian text tradition.


## The Egyptian Text Tradition

Figure 3.2b displays the branch of the Egyptian text tradition. Exemplar Ex-152\# 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 $96 \%$, differing from the autograph by 14 variants. I refer to this branch as the Egyptian text tradition. The branch has a depth of four generations. Its date is established by second-generation fragmentary church father Clement ( $\mathrm{Cl} \wedge \mathrm{a} \% \mathrm{c}$. AD 215). It is the text from which Codex Vaticanus B*, Codex Sinaiticus 01*, the Boharic and Sahidic translations, NA-27, as well as several others were most likely derived.

## The Generations of Genealogical History

Program Lachmann-10 reconstructed the genealogical history of the text of Hebrews in seven 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 Hebrews by generation.

## Table 3.1

Distribution of Extant Witnesses
By Generation

| Generation | Num. of <br> Witnesses |
| :---: | :---: |
| 1 | 0 |
| 2 | 53 |
| 3 | 20 |
| 4 | 15 |
| 5 | 20 |
| 6 | 1 |
| 7 | 26 |
| 8 | 0 |
| 9 | 0 |



## 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: 39 of the witnesses had only one parent, having no mixture at all; MS D06^2 has 11 parents. The sources of mixture are not displayed in the tree diagrams.

[^9]Table 3.2
Distribution of Witnesses
by Number of Parents

| Num. of <br> Parents | Num. of <br> Witnesses |
| :---: | :---: |
| 1 | 39 |
| 2 | 34 |
| 3 | 23 |
| 4 | 20 |
| 5 | 17 |
| 6 | 13 |
| 7 | 4 |
| 8 | 8 |
| 9 | 2 |
| 10 | 2 |
| 11 | 1 |

## 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, 18 exemplars have only 2 primary daughters, whereas only one exemplar (Ex-137) has 26 primary daughters.

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 Hebrews, 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.

| Table 3.3 <br> Distribution of Exemplars by Number of Primary Daughters |  | Table 3.4 <br> Distribution of Exemplars by Number of Secondary Daughters |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Num. of Secondary Daughters | Num. of Exemplars | Num. of Secondary Daughters | Num. of Exemplars |
| Num. of Primary Daughters | Num. of Exemplars |  |  |  |  |
|  |  | 0 | 9 | 10 | 1 |
|  |  | 1 | 2 | 17 | 1 |
| 2 | 18 | 2 | 1 | 18 | 1 |
| 3 | 1 |  |  |  |  |
| 4 | 1 | 3 | 1 | 21 | 1 |
| 4 |  | 4 | 1 | 23 | 1 |
| 5 | 1 |  |  |  |  |
| 26 | 1 | 5 | 1 | 25 | 2 |
| Total | 7 | 7 | 2 | 35 | 1 |
|  | 74 | 8 | 1 | 64 | 1 |
|  |  | 9 | 1 | Total $=$ | 285 |

## 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, nine exemplars have no secondary daughters, whereas only one exemplar (Ex-159\$, a virtual source of mixture) had 64 secondary daughters; one exemplar (Ex-151\#, the Egyptian recension) had 35 secondary daughters; and two exemplars (Ex-156\#, the Antiochan recension, and Ex-153) had 25 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 Hebrews.

## 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.

## Distribution of Affinity

Another measure of the success of the software in reconstructing the genealogical history of the text of Hebrews 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
Distribution of Affinity of Extant
Witnesses with Primary Parent

| $\%$ <br> Affinity | No. of <br> 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 |
| $66-70$ | 0 |
| $71-75$ | 1 |
| $76-80$ | 0 |
| $81-85$ | 0 |
| $86-90$ | 3 |
| $91-95$ | 3 |
| $96-100$ | 46 |
| Total | 53 |

Distribution of \% Affinity by No. of Witnesses


[^10]Table 3.5 and its associated graph display the distribution of the affinity of the extant witnesses ${ }^{7}$ to their corresponding primary parent exemplar. The evidence from Table 3.5 indicates that all but four extant witness had a strong affinity (> $90 \%$ ) with their primary parent exemplar, and all but one had an affinity greater than $85 \%$. This 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

| $\begin{gathered} \% \\ \text { Affinity } \end{gathered}$ | No. of Witnesses | Distribution of \% Affinity by No. of Witnesses |  |
| :---: | :---: | :---: | :---: |
| 0-5 | 0 |  |  |
| 6-10 | 0 |  |  |
| 11-15 | 0 |  | 0 |
| 16-20 | 0 |  |  |
| 21-25 | 0 |  |  |
| 26-30 | 0 |  | 8 |
| 31-35 | 0 |  | 7 |
| 36-40 | 0 |  |  |
| 41-45 | 0 |  |  |
| 46-50 | 0 |  | 5 |
| 51-55 | 0 |  | 4 |
| 56-60 | 0 |  |  |
| 61-65 | 0 |  |  |
| 66-70 | 0 |  | 2 |
| 71-75 | 0 |  |  |
| 76-80 | 0 |  |  |
| 81-85 | 0 |  |  |
| 86-90 | 5 |  | $\bigcirc$ ¢ |
| 91-95 | 7 |  | Percent Affinity |
| Total | 21 |  |  |

[^11]The evidence from Table 3.6 indicates that 16 ( $76 \%$ ) of the 21 reconstructed exemplars ${ }^{9}$ have a strong affinity (> 90\%) with their primary parent exemplar, and all have an affinity greater than $85 \%$ with their parent. The presence of weak affinities is troubling because it questions 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 Hebrews 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 Hebrews. 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: ${ }^{11}$
5,473
Global Number of Actually Inherited Variants: ${ }^{12} 5,062$
Global Number of Changed Variants: ${ }^{13}$
Global Number of Corrected Variants: ${ }^{14}$

[^12]This information indicates that for the 5,473 variants (the inheritable ones) initiated in all the ancestor exemplars in the stemma, 5,062 were persistent, being actually inherited by all their respective descendants $(92.49 \%)$, and 40 were changed ( $0.73 \%$ ) somewhere in intervening ancestors. Interestingly, 371 of them ( $6.78 \%$ ) 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 Egyptian recension to the fourthgeneration papyrus $\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}$ (c. AD 200 ) through the following exemplars:

$$
\begin{aligned}
\text { Autograph }[0.00]<0>\{\text { AD } 75\} / 0 / 0 / 0 \\
\text { Ex-156\#[0.92] }<1>\{\text { AD } 80\} / 25 / 25 / 3 \\
\text { Ex- } 153[0.91]<2>\{\text { AD } 100\} / 29 / 25 / 4 \\
\text { Ex- } 147[0.93]<3>\{\text { AD 150 }\} / 24 / 29 / 5 \\
P^{\wedge} 46^{\wedge} c[0.71]<4>\{\text { AD } 200\} / 90 / 24 / 5
\end{aligned}
$$

The witness of $\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}$ is reliable, having readings in 312 places of variation, being $96.59 \%$ complete, and having $71 \%$ agreement with its parent exemplar. So, the date of the autograph is rather firm based on this witness. In any case, the date AD 75 seems about right based on the commonly accepted date of the book.

## Summary

Beginning with 135 extant witnesses, 64 of which were $80 \%$ or more complete, Lachmann10 reconstructed 22 exemplars to account for the genealogical relationships among them. It constructed a stemma that mapped the genealogical history of the text of Hebrews consisting of three main branches corresponding to the three traditional text types. Table 3.8 summarizes the following 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 <br> Summary of Data

|  | Egyptian | Antiochan | Western |
| :---: | :---: | :---: | :---: |
| Recension | Ex-152\# | Ex-156\# | Ex-151\# |
| Date | AD 165 | AD 80 | AD 150 |
| Latest | AD 1150 | AD 1450 | AD 1150 |
| Affinity | $96 \%$ | $92 \%$ | $90 \%$ |
| Difference | 14 | 25 | 27 |
| Exemplars | 4 | 13 | 4 |
| Generations | 4 | 7 | 5 |

The Antiochan text tradition has the earliest origin (AD 80), the longest duration (AD 80 to 1450 ), and the second best affinity with the autograph ( $92 \%$ ).

## Conclusions

The software does indeed reconstruct a genealogical history of the manuscripts of the Book of Hebrews, 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, with Byzantine being the latest form of the Antiochan text tradition.

This concludes the discussion of the genealogical history of the witnesses to Hebrews. 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 Hebrews is discussed in Chapter Four.

## CHAPTER 4 <br> THE HISTORY OF THE TEXTUAL VARIANTS IN HEBREWS

Chapter Three presents the genealogical history of the manuscripts ${ }^{1}$ of the Greek text of the Book of Hebrews. 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 323 places of textual variation in the book of Hebrews and 739 variant readings. This averages out to a variableness index of 2.29 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 251 places of variation there were only two variant readings, at only two places there were five $(10: 34,2 ; 11: 17,1)$, and at only one place was there $\operatorname{six}(7: 14,2)$.

Table 4.1
Distribution of Number of
Variants per Place of

## Variation

| Number <br> of vari- <br> ants | Number <br> of Places <br> of Varia- <br> tion |
| :---: | :---: |
| 1 | 0 |
| 2 | 251 |
| 3 | 55 |
| 4 | 14 |
| 5 | 2 |
| 6 | 1 |
| 7 | 0 |
| 8 | 0 |
| 9 | 0 |
| 10 | 0 |
| Total= | 739 |



[^13]Initially the number 323 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 Hebrews (c. 4,993) 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 Hebrews 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 739 variants are recorded, but 323 of them are original readings, so only 416 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 Hebrews: (1) omissions, (2) alterations, (3) transpositions, and (4) additions. Table 4.2 lists the distribution of these types of variants in the 323 places of variation in the autographic text of the Book of Hebrews, 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 | 45 |
| omit a phrase | 8 |
| Alternate word | 151 |
| Alternate words | 39 |
| Transposed words | 9 |
| Added word or phrase | 71 |
| Total | 323 |

Table 4.3
Distribution of All Variants by Type

| Variation Type | Number of Variants |
| :---: | :---: |
| omit a word | 90 |
| omit a phrase | 17 |
| Alternate word | 351 |
| Alternate words | 115 |
| Transposed words | 19 |
| Added word or phrase | 147 |
| Total | 739 |

[^14]
## 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 four 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 Hebrews.

Table 4.4
Frequency of Exemplar Reading Rules

| (1) by greatest probability | 6,403 |
| :---: | :---: |
| (2) by deferred ambiguity | 390 |
| (4) by default to NA-27 | 49 |
| (5) by arbitrary choice | 1 |
| (6) by language deference | 24 |
| Total | 6,867 |

The evidence indicates that the vast majority of exemplar readings (93.24\%) were determined by "consensus among independent witnesses," and nearly all the remainder (5.68\%) were determined by deferred ambiguity, while only $0.71 \%$ were deferred to the NA-27 reading, and $0.37 \%$ were determined by arbitrary choice or language preference.

[^15]
## Autographic Readings

The readings of the autographic text of Hebrews were determined on the basis of consensus among the three most ancient independent witnesses. For the book of Hebrews, the exemplars of the three most ancient independent recensions were: (1) Exemplar Ex-151\#, the recension from which the Western text tradition was derived; (2) Exemplar Ex-152\#, the recension from which the Egyptian text tradition was derived; and (3) Exemplar Ex-156\#, the recension from which the Antiochian text tradition was derived. Appendix D lists each of the 323 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 Hebrews. The evidence indicates that $91.02 \%$ 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 | 294 | $91.02 \%$ |
| :---: | :---: | :---: |
| Number of Autographic variants decided by Choice of NA27 | 5 | $1.55 \%$ |
| Number of Autographic variants decided by arbitrary choice | 0 | $0 \%$ |
| Number of Autographic variants decided by Language deference | 24 | $7.43 \%$ |
| Total | 323 |  |

Table 4.6 and its associated graph displays the distribution of the probability of the reconstructed autographic readings. Of the 323 readings, 259 had a probability of 1.0 ( $100 \%$ ), 49 had a probability of $0.66(66 \%), 13$ had a probability of $0.50(50 \%)$, and two had a probability of 0.33 (33\%).

Table 4.6
Distribution of Autographic
Readings by Probability

| Probability | Number of <br> Readings |
| :---: | :---: |
| 0.1 | 0 |
| 0.2 | 0 |
| 0.33 | 2 |
| 0.4 | 0 |
| 0.5 | 13 |
| 0.66 | 49 |
| 0.7 | 0 |
| 0.8 | 0 |
| 0.9 | 0 |
| 1.00 | 259 |



## 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-27 294 times or $90.40 \%$ of the time and differs from the NA-27 text 29 times or $13.33 \%$ of the time. Appendix E lists the 29 places where the Lachmann-10 text differs from that of NA-27.

Table 4.7
Frequency of Variants

| Variant 1 | 294 |
| :---: | :---: |
| Variant 2 | 26 |
| Variant 3 | 3 |
| Variant 4 | 0 |
| Variant 5 | 0 |
| Variant 6 | 0 |
| Total | 323 |

## 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-158\$ through Ex-164\$ 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 416 non-autographic variants, 327 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-152\# was the ancestral forefather of the Egyptian text tradition. This recension differs from the autograph by 14 secondary variants ${ }^{6}$ among which it uniquely originated the following 11 variants peculiar to this entire text tradition:

| 76.1 | 5:12,2.1 | ${ }^{\text {¢ }} \tau \iota \nu \alpha$ |
| :---: | :---: | :---: |
| 94.2 | 7:1,1.2 | os |
| 121.2 | 7:27,3.2 | $\pi \rho о \sigma \in \nu$ - |
| 168.2 | 10:1,4.2 | - $\nu \alpha \nu \tau \alpha \iota$ |
| 219.2 | 11:4,2.2 | $\alpha \cup \tau 0 \cup ~ \tau \omega ~ \theta \epsilon \omega$ |
| 231.2 | 11:13,1.2 | * конıб $\alpha \mu \in \nu$ оı |
| 245.1 | 11:32,1.1 | ${ }^{\prime} \mu \in \gamma \alpha \rho$ |

[^16]| 249.2 | $11: 35,1.2$ | $-\kappa \alpha \varsigma$ |
| :--- | :--- | :--- |
| 250.2 | $11: 37,1.2$ | ${ }^{\circ} \epsilon \pi \epsilon \iota \rho \alpha \sigma \theta \eta \sigma \alpha \nu, \epsilon \pi \rho \iota \sigma \theta \eta \sigma \alpha \nu$ |
| 275.2 | $12: 15,3.2$ | ${ }^{\circ}$ оь |
| 296.2 | $12: 28,1.2$ | $\epsilon \chi \circ \mu \epsilon \nu$ |

## Western Recension

First-generation Exemplar Ex-151\# was the Western recension, being the text from which most of the Latin translations were made. It differs from the autographic text by 27 secondary variants, ${ }^{7}$ among which it uniquely originated the following 13 variants peculiar to this entire text tradition:

| 17.2 | 1:11,1.2 | - $\mu \in \nu \in \mathrm{I} \mathrm{I} \mathrm{S}$ |
| :---: | :---: | :---: |
| 24.2 | 2:4,2.2 | ${ }^{\circ}$ оцı七 |
| 53.3 | 4:2,2.3 | тоıऽ $\alpha<$ оиб $\theta \in\llcorner\sigma \iota \nu$ |
| 86.3 | 6:14,1.3 | $\epsilon \iota \mu \eta$ |
| 138.2 | 8:11,1.2 | $\pi \lambda \eta \sigma$ ¢оข |
| 145.2 | 9:2,2.2 | $\dot{\alpha} \gamma \dot{\chi} \alpha$ |
| 187.2 | 10:16,2.2 | $\tau \omega \nu \delta \iota \alpha \nu \circ \iota \omega \nu$ |
| 193.2 | 10:23,1.2 | $\eta \mu \omega \nu$ |
| 217.2 | 11:3,1.2 | $\tau \alpha \beta \lambda \in \pi о \mu \in \nu \alpha$ |
| 292.3 | 12:25,2.3 | 3412 |
| 303.2 | 13:6,1.2 | ${ }^{\circ} \mathrm{o} \mathrm{\mu} \mathrm{\nu} \mathrm{\tau}$ |
| 317.2 | 13:21,3.2 | $\nu \mu \iota \nu$ |
| 319.2 | 13:22,1.2 | - $\chi \in \sigma \theta \alpha\llcorner$ |

## Antiochian Recension

Exemplar Ex-156\# was the Antiochian recension, being the text from which the Syrian and Byzantine witnesses were derived. It differs from the autographic text by 25 secondary variants, ${ }^{8}$ among which it uniquely originated the following 14 variants peculiar to this entire text tradition:

| 8.2 | $1: 3,4.2$ | $\eta \mu \omega \nu$ |
| :---: | :---: | :--- |
| 13.2 | $1: 8,2.2$ | ${ }^{\circ}$ о $\mu \tau$ |

${ }^{7} 1: 11,1.2 ; 2: 4,2.2 ; 3: 6,1.2[\mathrm{Ex}-163 \$] ; 3: 18,1.2[\mathrm{Ex}-163 \$] ; 4: 2,2.3 ; 4: 6,1.2[\mathrm{Ex}-163 \$] ; 4: 11,1.2[\mathrm{Ex}-163 \$] ;$ 5:3,1.3[Ex-163\$]; 5:12,1.2[Ex-163\$]; 5:12,3.2[Ex-163\$]; 6:14,1.3; 8:11,1.2; 9:2,2.2; 10:9,1.2[Ex-163\$]; 10:16,1.2[Ex-163\$]; 10:16,2.2; 10:17,2.2[Ex-163\$]; 10:23,1.2; 10:30,2.2[Ex-163\$]; 11:3,1.2; 11:11,1.1[Ex-163\$]; 11:12,1.2[Ex-163\$]; 12:25,2.3; 13:6,1.2; 13:21,2.4[Ex-163\$]; 13:21,3.2; 13:22,1.2; Count $=27$.
${ }^{8} 1: 2,3.2[E x-163 \$] ; 1: 3,3.2[E x-163 \$] ; 1: 3,4.2 ; 1: 8,2.2 ; 1: 8,3.2 ; 5: 4,2.2 ; 6: 14,1.2 ; 7: 11,2.2 ; 7: 21,2.2 ; 7: 22,1.2 ;$ 9:1,1.2[Ex-163\$]; 9:19,2.2[Ex-163\$]; 9:26,2.2[Ex-163\$]; 10:8,1.2; 10:34,1.3[Ex-164\$]; 10:34,3.2[Ex-163\$]; $10: 38,1.2[\mathrm{Ex}-163 \$] ; 11: 8,2.2 ; 12: 3,2.2[\mathrm{Ex}-163 \$] ; 12: 18,1.2 ; 12: 18,2.2 ; 12: 25,1.2[\mathrm{Ex}-163 \$] ; 12: 27,1.2 ; 12: 28,2.3$; 13:21,1.2[Ex-163\$]; Count $=25$.

| 14.2 | 1:8,3.2 | $\rho \alpha \beta . \epsilon \cup \theta$. $\eta$ |
| :---: | :---: | :---: |
| 72.2 | 5:4,2.2 | $\kappa \alpha \theta \alpha \pi \epsilon \rho$ |
| 86.2 | 6:14,1.2 | $\hat{\eta} \mu \eta \nu$ |
| 103.2 | 7:11,2.2 | $\alpha$ ט̉tñ |
| 114.2 | 7:21,2.2 |  |
| 115.2 | 7:22,1.2 | тooovtov |
| 174.2 | 10:8,1.2 | - $\alpha \sim \nu$ к. - $\rho \alpha \nu$ |
| 225.2 | 11:8,2.2 | тov |
| 278.2 | 12:18,1.2 | opel |
| 279.2 | 12:18,2.2 | к. бкот $\omega$ |
| 295.2 | 12:27,1.2 | 231 |
| 297.3 | 12:28,2.3 | - $\cup \cup \mu \in \nu$ |

## 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.

## 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 (1:12,2; $2: 7,1$ ). Also some places of variation have multiple options widely distributed among the witnesses (7:14,2); 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 1:12,2

Hebrews 1:12 reads: "Like a cloak You will fold them up, And they will be changed. But You are the same, And Your years will not fail." Some witnesses have the words "like a garment" between "And" and "they." The variants are:
(1) $\omega \varsigma \iota \mu \alpha \tau \iota \nu-$ like a garment
(2) out - omit

Figure 4.1 displays the distribution of the variants throughout genealogical history. This is an instance where the Lachmann-10 autographic reading differs from that of NA-27.

## Figure 4.1 <br> Distribution of 1:12,2



Variant 2 has the consensus of all three first-generation recensions: Exemplar Ex-152\#, the recension from which the Egyptian text tradition was derived, and Exemplar Ex-156\#, the recension from which the Antiochian text tradition was derived, and Exemplar Ex-151\#, the recension from which the Western text tradition was derived; it was selected as the autographic reading on this basis with a probability of $100 \%$. It has the support of the witnesses in the Egyptian text tradition except those in the sub-branch headed by second-generation Exemplar Ex-142. It has the support of all the witnesses in the Western text tradition except for MSS $\mathrm{P}^{\wedge} 46^{*}, \mathrm{~B}^{\wedge} \mathrm{c} \%$, and $\mathrm{vg}^{\wedge} \mathrm{b}$. It has the support of all the witnesses of the Antiochian text tradition except those in the sub-branch headed by third-generation Exemplar Ex-147. It has the greatest antiquity, ${ }^{9}$ the broadest distribution, ${ }^{10}$ and good 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.

Variant 1 was possibly first initiated in papyrus $\mathrm{P}^{\wedge} 46^{*}$ (c. AD 200) and then by mixture initiated in second-generation Exemplar Ex-142 of the Egyptian text tradition after which it persisted throughout the history of that branch. It was also initiated by mixture in third-generation Exemplar Ex-147 of the Antiochian text tradition after which it persisted throughout the history of that branch. It was also initiated by mixture in MSS $\mathrm{B}^{\wedge} \mathrm{c} \%$, $\mathrm{P}^{\wedge} 46^{*}$, and $\mathrm{vg}^{\wedge} \mathrm{b}$. This variant lacks antiquity, and distribution, but has persistence once initiated.

## Missing Words in 7:21,2

Hebrews 7:21 reads: "for they have become priests without an oath, but He with an oath by Him who said to Him: 'The LORD has sworn And will not relent, "You are a priest forever according to the order of Melchizedek.""" Some witnesses have the phrase "according to the order of Melchizedek" and some do not. The variants are:
(1) oplt—omit
(2) $x \alpha \tau \dot{\alpha} \tau \dot{\eta} \nu \tau \alpha \dot{\xi} \leqslant \nu \mathrm{M} \varepsilon \lambda \chi \iota \sigma \delta \delta \varepsilon \dot{x}-$ According to the order of Melchizedek

Figure 4.2 displays the distribution of the variants throughout genealogical history.
Figure 4.2
Distribution of 7:21,2


Variant 1 has the consensus of two of the first-generation recensions: Exemplar Ex-151\#, the source of the Western text tradition, and Exemplar Ex-152\#, the source of the Egyptian text tradition. It was selected as the autographic reading on this basis with a probability of 0.67 ( $67 \%$ ). It has the support of all the witnesses in the Western text tradition except MSS D06*, $\mathrm{vg}^{\wedge} \mathrm{b}$, and Eus^a\% (not shown); also all the witnesses of the Egyptian tradition except some witnesses in the
sub-branch headed by second-generation Exemplar Ex-142. It also occurs by mixture in the subbranch of the Antiochian text tradition headed by fourth-generation Exemplar Ex-142, and independently in MS $\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c} \%$. It has the greatest antiquity, broadest distribution, and excellent persistence.

Variant 2 (include "according to the order of Melchizedek") was first initiated in firstgeneration recension Exemplar Ex-156\#, the source of the Antiochian text tradition. Afterward it persisted in that tradition throughout its genealogical history except for the witnesses in the subbranch headed by fourth-generation Exemplar Ex-141. It occurs independently in some of the witnesses in the sub-branch of the Egyptian text tradition headed by second-generation Exemplar Ex142, and in MSS D06* and $\mathrm{vg}^{\wedge}$ b of the Western text tradition. It lacks antiquity and distribution.

## Multiple Variants in 7:14,2

Hebrews 7:14 reads: "For it is evident that our Lord arose from Judah, of which tribe Moses spoke nothing concerning priesthood." The words of the last clause of the verse have six different ordered arrangements among the various witnesses. They are:

There are three variants here:
(1) $\pi \epsilon \rho\llcorner\llcorner\in \rho \in \omega \nu$ oủ $\delta \in \nu$ M $\omega u \sigma \eta s$ é $\lambda \alpha \alpha \lambda \eta \sigma \in \nu$-concerning the priesthood Moses said nothing

(3) $\pi \in \rho\llcorner\downarrow \in \rho \in \omega \nu$ M $\omega \cup \sigma \eta \varsigma ~ o u ̉ \delta \in \nu \dot{\epsilon} \lambda \lambda \alpha \lambda \eta \sigma \in \nu$-concerning the priesthood Moses said nothing

(5) oủ $\delta \in \nu \pi \epsilon \rho \iota ~\left\llcorner\in \rho \omega \sigma u \nu \eta \varsigma\right.$ M $\omega u \sigma \eta \varsigma \dot{\epsilon}^{\lambda} \lambda \alpha \lambda \lambda \eta \sigma \in \nu$-concerning the priesthood Moses said nothing
 ing

Figure 4.3 displays the genealogical distribution of these variants. Variant 1 has the consensus of all three first-generation recensions: Exemplar Ex-152\#, the recension from which the Egyptian text tradition was derived, Exemplar Ex-136\#, the recension from which the Antiochian text tradition was derived, and Exemplar Ex-151\#, the recension from which the Western 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 MS 01*. It has the support of the first-generation witnesses of the Western text tradition except for MSS P ${ }^{\wedge} 46^{*}$, and $104 * \%$, and those in the sub-branch headed by second-generation Exemplar Ex-150. It has the support of the first-generation witnesses of the Antiochian text tradition except those in the subbranch headed by second-generation Exemplars Ex-155 and Ex-153. It has the greatest antiquity, the broadest distribution, but poor persistence.


Variant 2 occurs only in MSS $0278 * \%$ and $027 \wedge^{\wedge} \mathrm{c} \%$, daughters of Exemplar Ex-151\# (not shown). Variant 3 occurs only in MSS $\mathrm{P}^{\wedge} 46^{*}, \mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c} \%, 01^{*}$, and $104^{*} \%$ rather randomly. Variant 4 occurs in the witnesses in the sub-branch headed by second-generation Exemplar Ex-150 of the Western text tradition, and in the witnesses in the sub-branch headed by second-generation Exemplar Ex-153 of the Antiochian text tradition, and independently in MS 80*\% (not shown). Variant 5 occurs in the witnesses in the sub-branch headed by second-generation Exemplar Ex-155 of the Antiochian text tradition, and independently in MSS C^3\%, vg^b, and it-b (some not shown). Variant 6 occurs in the witnesses in the sub-branch headed by fourth-generation Exemplar Ex-143 of the Antiochian text tradition, and independently in MS $1505 * \%$ (not shown). All these variants lack antiquity and distribution, but have persistence where applicable. These multiple variants are interesting from a textual critical perspective but make no practical difference from the perspective of translation, except for possible semantic focus.

## Ambiguity at 12:18,2

Of the 323 places of variation in the Book of Hebrews, Lachmann-10 found 13 autographic readings with a probability of $0.5(50 \%) .{ }^{11}$ One example occurs in $12: 18$. Hebrews $12: 18$ reads: "For you have not come to the mountain that may be touched and that burned with fire, and to blackness and darkness and tempest." There are three variant readings here for the words translated "and darkness." They are:

[^17](1) ' $\kappa \alpha \iota \zeta$ боф $\omega$ : and gloom
(2) 'к $\alpha\llcorner$ бкот $\omega$ : and darkness
(3) -: lacuna

Figure 4.4 displays the distribution of these variants throughout genealogical history.
Figure 4.4
Distribution of 12:18,2


In this case no consensus exists among the first-generation exemplars. Exemplar Ex-152\#, the recension from which the Egyptian text tradition was derived, supports variant 1; Exemplar Ex-156\#, the recension from which the Antiochian text tradition was derived, supports variant 2; and Exemplar Ex-151\#, the recension from which the Western text tradition was derived, has a lacuna. In the case of such ambiguity, Lachmann-10 assigns the reading of NA-27 (variant 1) to the autograph by default, with a probability of $50 \%$, on the assumption that it has the best internal evidence in the judgment of the NA-27 editors.

Variant 1 has the support of all the witnesses in the Egyptian text tradition headed by Exemplar Ex-152\#, except for MSS K*\% and 01^2. It occurs also independently in MSS D06*, $104 * \#, 326$, and $365 \%$ (some not shown). Variant 2 has the support of all the witnesses in the Antiochian text tradition headed by Exemplar Ex-156\#, except for MS 326. It occurs independently as well as MSS $\mathrm{P}^{\wedge} 46^{*}$ and $01^{\wedge} 2$ (not shown). Variant 3 occurs independently only in MSS K*and it-d.

While the genealogical evidence determines the autographic reading with only $50 \%$ probability, the alternatives affect translation rather insignificantly.

## 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 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

[^18]century event, not a fourth century one, and it is theologically orthodox, not a corruption. The following is the evidence he presented regarding doctrine in Hebrews:

## Hebrews 1:3,3

## Regarding Hebrews 1:3,3 Ehrman asserted:

The passage contains several interesting textual variants, of which the prepositional phrase "through himself" ( $\left.\delta \imath^{\prime} \dot{\varepsilon} \alpha \cup \tau 0 \tilde{u}\right)$ is of particular relevance to the present discussion. The phrase is wanting in a number of important manuscripts of predominantly Alexandrian cast ( $\mathcal{K}$ B $\Psi 33$ 81), but is present in the earliest form of that tradition ( $\mathrm{P}^{46} 1739$ Ath) as well as in the leading representatives of other text types (D 0121b Byz a b syr cop). Witnesses that lack the phrase have in its stead the personal pronoun $\alpha \cup \mathfrak{\tau} \tau 0 \tilde{u}$, which is to be understood as going with the preceding clause ("his power"); codex Bezae and nearly the entire Byzantine tradition conflate the two readings. . . . The phrase $\delta l^{\prime}$ ' $\alpha u \tau 0 u \tilde{u}$ would normally be taken to mean "by his own effort, with no assistance from outside." In other words, Jesus is said to have taken on himself the task of procuring a cleansing for sins without any (divine) assistance. After accomplishing his work, he was exalted to God's right hand. This understanding of the ancient hymn makes good sense in Hebrews, but given its serviceabilty in the hands of Gnostics, one can understand the natural inclination of scribes to effect a modification. For if Jesus' work was accomplished $\delta \iota$ ' $\varepsilon \alpha \cup \tau 0 u ̃$, one might infer that the divine element had left him prior to its consummation. To avoid such a construal, orthodox scribes simply dropped the preposition and changed the reflexive to a personal pronoun. By omitting two or three letters they obviated a potential problem, much as they eliminated the problem of $2: 9$ by making a comparably unobtrusive change. It comes as no surprise to find the corruption attested predominantly in manuscripts of Alexandria, where Gnostics made such significant inroads during the second century, when the change must have been effected. ${ }^{13}$

Hebrews 1:3 reads: "who being the brightness of His glory and the express image of His person, and upholding all things by the word of His power, when He had by Himself purged our sins, sat down at the right hand of the Majesty on high." There are two variants here:
(1) outc—omit
(2) $\delta_{\imath}$ ' $\varepsilon a \cup \tau \circ u ̃-b y ~ H i m s e l f ~$

Figure 4.5 displays the distribution of these variants throughout genealogical history. Variant 1 (omit the phrase) has the consensus of two of the first-generation recensions: Exemplar Ex151\#, the source of the Western text tradition, and Exemplar Ex-152\#, the source of the Egyptian text tradition. It was selected as the autographic reading on this basis with a probability of 0.67 ( $67 \%$ ). It has the support of all the witnesses in the Western text tradition except MSS $\mathrm{P}^{\wedge} 46^{*}$, $0278 * \%, 0278^{\wedge} \mathrm{c} \%, 365 \%, \mathrm{D} 06^{*}, \mathrm{vg}^{\wedge} \mathrm{b}$, and $\mathrm{it} \wedge$ ar (some not shown); also all the witnesses of the Egyptian tradition except MSS sa^a $\%$, $\mathrm{sa}^{\wedge} \mathrm{b} \%$, $\mathrm{bo}^{\wedge} \mathrm{b} \%$, and $1505 \%$ (some not shown). It also occurs independently in MS D $06^{\wedge} 1 \%$, Lectionary $1^{\wedge} 249$, and the witnesses in the sub-branch of the

[^19]Antiochian text tradition headed by third-generation Exemplar Ex-154. It has the greatest antiquity, broadest distribution, and excellent persistence.

## Figure 4.5 <br> Distribution of $\mathbf{1 : 3 , 3}$



Variant 2 (include "by Himself") was first initiated in first-generation recension Exemplar Ex-156\#, the source of the Antiochian text tradition. Afterward it persisted in that tradition throughout its genealogical history except for the witnesses in the sub-branch headed by thirdgeneration Exemplar Ex-154. It occurs independently in MSS sa^a\%, $\mathrm{sa}^{\wedge} \mathrm{b} \%$, $\mathrm{bo} \wedge \mathrm{b} \%$, and $1505 \%$ (some not shown) of the Egyptian text tradition, and in MSS $\mathrm{P}^{\wedge} 46^{*}, 0278 * \%, 0278^{\wedge} \mathrm{c} \%, 365 \%$, D06*, $\mathrm{vg}^{\wedge} \mathrm{b}$, and it ^ar (some not shown) of the Western text tradition. It lacks antiquity and distribution.

Ehrman was right that an alteration was made, but it did not alter the canonical text; the NA-27 editors rejected the reading as original. The first century text was orthodox regarding this theological concept.

## Hebrews 1:3,4

Regarding Hebrews 1:3 Ehrman asserted:

> A similar situation occurs in the opening verses of the book, where the Son of God is said to have made "a cleansing for sins" (1:3). The majority of manuscripts in the Byzantine tradition have added a possessive pronoun for clarification, so that now the text states that Christ made a cleansing for "our" sins. The modification serves to differentiate Christ from the Levitical priests
who make cleansing for their own sins before offering a sacrifice of atonement for the people (7:27). ${ }^{14}$

Hebrews 1:3 reads: "who being the brightness of His glory and the express image of His person, and upholding all things by the word of His power, when He had by Himself purged our sins, sat down at the right hand of the Majesty on high." There are two variants here:
(3) oんเ七-omit
(4) $\eta \mu \omega \nu$-our

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

## Figure 4.6 Distribution of 1:3,4



Variant 1 has the consensus of two of the first-generation recensions: Exemplar Ex-151\#, the source of the Western text tradition, and Exemplar Ex-152\#, the source of the Egyptian text tradition. It was selected as the autographic reading on this basis with a probability of 0.67 ( $67 \%$ ). It has the support of all the witnesses in the Western text tradition, and all the witnesses of the Egyptian tradition except those in the sub-branch headed by second-generation Exemplar Ex-145. It has the greatest antiquity, broadest distribution, and excellent persistence.

Variant 2 (include "our") was first initiated in first-generation recension Exemplar Ex156\#, the source of the Antiochian text tradition. Afterward it persisted in that tradition throughout

[^20]its genealogical history except for the witnesses in the sub-branch headed by third-generation Exemplar Ex-147, and those in the sub-branch headed by fourth-generation Exemplar Ex-143. It lacks antiquity and distribution.

Ehrman was right that an alteration was made, but it is difficult to imagine that the early church, or any other readers, could possibly confuse the subject of this discourse with a Levitical priest. The added word merely made emphatic the plainly understood beneficiary of Christ's sacrifice. The expression "our sins" as it relates to Christ's cleansing sacrifice is mentioned at least 10 times ${ }^{15}$ in the New Testament, most of which have no mention of variation in the NA-27 textual apparatus. The first century text was orthodox regarding this theological concept.

## Hebrews 2:9,1

Regarding Hebrews 2:9 Ehrman asserted:
A comparable motivation for changing a text may lie behind one of the most famous and intriguing corruptions of the Epistle to the Hebrews. In this case, however, the corruption carried with it so much the sense of an obvious improvement that it had already overwhelmed the manuscript tradition of the epistle prior to the penning of the earliest surviving witnesses. In most of my earlier discussions of textual variants 1 have shown the importance of both external and internal evidence, especially when they work together in tandem. In the case of Hebrews 2:9 there is a direct clash between these two kinds of evidence. Although the surviving documents are virtually uniform in stating that Jesus died for all people "by the grace of God" ( $\chi$ व́pı $\tau \iota \theta \varepsilon \circ \cup$ ), the force of internal evidence compels us to accept as original the poorly attested variant reading, which states that Jesus died "apart from God" ( $\chi \omega \rho \iota \tau \iota$ Өвou). ${ }^{16}$

He continued to contend unconvincingly that the alternate reading was original because it was found in many ancient copies now extinct. His argument was not accepted by the editors of NA-27, however, Bruce Metzger wrote:

The latter reading appears to have arisen either through a scribal lapse, misreading $\chi$ व́pı $\tau \iota$ as $\chi \omega \rho \iota \tau \iota$, or, more probably, as a marginal gloss (suggested by 1 Cor 15.27 ) to explain that "everything" in ver. 8 does not include God; this gloss, being erroneously regarded by a later transcriber as a correction of $\chi$ ápıгı $\theta \varepsilon \circ \cup$, was introduced into the text of ver. 9. ${ }^{17}$

Hebrews 2:9 reads: "But we see Jesus, who was made a little lower than the angels, for the suffering of death crowned with glory and honor, that He , by the grace of God, might taste death for everyone." There are two variants here:

[^21] 1972, p. 664.
(1) $\chi \alpha \rho \iota \tau \iota \theta \in o u-b y$ the grace of God
(2) $\chi \omega \rho \iota \varsigma \quad \theta \in o u-a p a r t$ from God

Figure 4.7 displays the genealogical distribution of these variants. Variant 1 (by the grace of God) has the consensus of all three first-generation recensions: Exemplar Ex-152\#, the recension from which the Egyptian text tradition was derived, and Exemplar Ex-156\#, the recension from which the Antiochian text tradition was derived, and Exemplar Ex-151\#, the recension from which the Western text tradition was derived; it was selected as the autographic reading on this basis with a probability of $100 \%$.

## Figure 4.7

Distribution of 2:9,1


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 MSS $\operatorname{Or}^{\wedge} \mathrm{b} \%$, and $\operatorname{vg}^{\wedge} \mathrm{b}$. It has the support of all the witnesses of the Antiochian text tradition except those in the sub-branch headed by fourthgeneration Exemplar Ex-146, and church fathers Fulg\% and Hier^b\%. It has the greatest antiquity, the broadest distribution, and excellent persistence.

Variant 2 (apart from God) occurs independently in three early second-generation church fathers: $\mathrm{Or}^{\wedge} \mathrm{b} \% ~(\mathrm{AD} 254)$, Fulg\% (AD 527), and Hier^b\% (AD 420); in addition it occurs in two fifth-generation MSS 0243*\% (AD 950) and 1739* (AD 950) together with their correctors. These singularities lack antiquity, distribution, and persistence. While some internal evidence may suggest that variant 2 has a greater probability of being original, the genealogical evidence indicates that it originated sporadically and randomly.

## Hebrews 2:14,1

Regarding Hebrews 2:14 Ehrman asserted:
Something similar can perhaps be said of a variant that occurs outside the Johannine corpus, in the book of Hebrews. To be sure, the text of Hebrews 2:14 as it stands can be taken as antidocetic: "Since the children have shared blood and flesh, even he [i.e., Christ] likewise partook of the same things" ( $\left.\alpha \dot{i} \alpha \cup ̉ \tau o ̀ s ~ \pi \alpha p a \pi \lambda \eta \sigma^{\prime} \omega s \mu \varepsilon \tau \varepsilon ́ \sigma \chi \varepsilon \nu \tau \tilde{\omega} \nu \alpha \cup ̉ \tau \omega ̃ \nu\right)$. But this understanding appears to be heightened by the addition of $\pi \alpha \theta \eta \mu \alpha \tau \omega \nu$ in some of the Western witnesses ( $\mathrm{D}^{*} \mathrm{~b}[\mathrm{t}]$ ), so that now the text speaks of Christ partaking "of the same sufferings" or, perhaps, of his enduring "the same experiences" as other humans. In this case, in fact, we should probably not construe the variant as an attempt to elevate the reality of Christ's suffering on the cross. For in the immediate context, blood and flesh are said to characterize human existence itself as a kind of limitation, a kind of suffering. Christ, then, participated fully in this human existence, he "partook of the same sufferings" that everyone must endure as flesh and blood creatures of this world. The emphasis, then, falls more on Christ's full humanity than on his passion per se. ${ }^{18}$

Hebrews 2:14 reads: "Inasmuch then as the children have partaken of flesh and blood, He Himself likewise shared in the same, that through death He might destroy him who had the power of death, that is, the devil." There are two variants here:
(1) out
(2) $\pi \alpha \theta \eta \mu \alpha \tau \omega \nu-s u f f e r i n g$

Figure 4.8 displays the genealogical distribution of these variants.

## Figure 4.8 <br> Distribution of 2:14,1



[^22]Variant 1 (omit the word) has the consensus of all three first-generation recensions: Exemplar Ex-152\#, the recension from which the Egyptian text tradition was derived, and Exemplar Ex156\#, the recension from which the Antiochian text tradition was derived, and Exemplar Ex-151\#, the recension from which the Western 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, and the support of all the witnesses of the Western text tradition except for MSS D06*, it-b, it-t, and $\mathrm{vg}^{\wedge} \mathrm{b}$. It has the support of all the witnesses of the Antiochian text tradition. It has the greatest antiquity, the broadest distribution, and excellent persistence.

Variant 2 (suffering) occurs independently in four MSS: D06*, it-b, it-t, and $\operatorname{vg}^{\wedge} \mathrm{b}$. These singularities lack antiquity, distribution, and persistence. Ehrman was right; a theological alteration occurred in a few randomly distributed Western witnesses. But they had no effect on the orthodoxy of the canonical text.

## Hebrews 2:18

Regarding Hebrews 2:18 Ehrman stated:


#### Abstract

Several such modifications appear in manuscripts of the Epistle to the Hebrews. There is little doubt concerning the original text of Hebrews $2: 18$ : "Because [Jesus] himself suffered, having been tempted, he is able to help those who are tempted." In the preceding verse Jesus is described as being like his human kindred in all things, so that he might be merciful to them and become a faithful high priest before God on their behalf, to offer expiation for their sins. In such a context, in which Jesus is said to be like other humans, the statement that he suffered after being "tempted" ( $\pi \varepsilon ı \rho a \sigma \theta \varepsilon i \varsigma)$ could understandably cause some confusion. Indeed, one natural way to read verse 18 ("he suffered, having been tempted") is that Jesus' difficulty in withstanding temptation is what led to his suffering. It comes then as no surprise to find the original hand of codex Sinaiticus circumventing the problem simply by deleting the participle. The omission could have been simply accidental; it was corrected by a later hand. But it is nonetheless intriguing: without it the text does not say that Jesus was tempted, only that he suffered. ${ }^{19}$


While Ehrman's allegations here are again true, the editors of the NA-27 retained $\pi \varepsilon ı \rho a \sigma \theta \varepsilon i \zeta$ in the text and regarded this variation to be sufficiently insignificant as to not list it in the textual apparatus. ${ }^{20}$ Obviously, this variant had no effect on the canonical text. As far as the text of Hebrews is concerned, Ehrman's claim is trivial, clearly not making the canonical text more

[^23]orthodox. The same may be said about Ehrman's claim about the significance of the variation of the name "Jesus" and "Christ Jesus" in Hebrews 3:121 and 13:20. ${ }^{22}$

## Hebrews 9:26,1

Regarding Hebrews 9:26 Ehrman stated:
Paul's letters provided ample opportunity to stress the orthodox doctrine that "Christ" himself suffered and died, as the doctrine can be found even in the unadulterated text of his letters. Subsequent corruptions simply drive the point home. . . .

One other textual phenomenon that is somewhat more difficult to assess is the occasional substitution of $\dot{\alpha} \pi 0 \theta \nu \eta \dot{\eta} \sigma \varkappa \omega$ for $\pi \dot{\alpha} \sigma \chi \omega$ in passages that refer to Christ's salvific work; in the modified texts Christ is said not merely to have "suffered" but actually to have "died." Of course, the two words may simply have been confused because of their lexical similarity (cf. $\dot{\alpha} \pi \circ \theta \alpha \nu \varepsilon 亢 ̃ / \pi \alpha \theta \varepsilon \tilde{\imath} \nu)$. But it is peculiar that when 1 Peter uses $\pi \alpha \dot{\sigma} \sigma \omega$ to refer to Christ's suffering, three out of four texts were changed ( $2: 21,3: 18,4: 1$; the exception is $2: 23$ ), whereas when it uses the same word to describe the suffering of Christians-eight occurrences in all—it is never changed ( $2: 19,20 ; 3: 14,17$; 4:lb [?], 15, 19; 5:10). This appears to be more than an accident. . . . The same change, it should also be noted, occurs in Hebrews 9:26 in Sahidic and several medieval Greek manuscripts. ${ }^{23}$

Hebrews 9:26 reads: "He then would have had to suffer often since the foundation of the world; but now, once at the end of the ages, He has appeared to put away sin by the sacrifice of Himself." There are two variants here:
(1) $\pi \alpha \theta \varepsilon i ̃-s u f f e r$
(2) $\alpha \pi 0 \theta \alpha v \varepsilon โ ั \nu — d i e$

Figure 4.9 displays the genealogical distribution of these variants. Variant 1 (suffer) has the consensus of all three first-generation recensions: Exemplar Ex-152\#, the recension from which the Egyptian text tradition was derived, and Exemplar Ex-156\#, the recension from which the Antiochian text tradition was derived, and Exemplar Ex-151\#, the recension from which the Western 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 MSS $\mathrm{s} \mathrm{a}^{\wedge} \mathrm{a} \%$ and $\mathrm{sa}^{\wedge} \mathrm{b} \%$ (not shown), and all the support of the witnesses of the Western text tradition It has the support of all the witnesses of the Antiochian text tradition, except MS 1908. It has the greatest antiquity, the broadest distribution, and excellent persistence.

[^24]

Variant 2 (die) occurs independently in three MSS: $\mathrm{sa}^{\wedge} \mathrm{a} \%$, $\mathrm{sa}^{\wedge} \mathrm{b} \%$, and 1908. These singularities lack antiquity, distribution, and persistence. Ehrman was right; a theological alteration occurred in a few randomly distributed witnesses. But they had no effect on the orthodoxy of the canonical text.

## Hebrews 10:10,2

Regarding Hebrews 10:10 Ehrman stated:
Another example occurs in Hebrews 10:10, a passage that could well be taken as antidocetic with either reading. Nonetheless, one finds the "blood" of Christ stressed here in a variant attested in two otherwise unrelated witnesses: both $D$ and $E$ (along with $d$ and e) substitute al $\mu \alpha \tau \circ \varsigma$ for $\sigma \omega^{\prime} \mu a \tau \circ \varsigma$, so that "sanctification" is said to come from Christ's offering his "blood" rather than his "body." This is a case where one might suspect a simple confusion of letters; but here again one must ask what kind of scribe with what kind of theology would be likely to make such an error. ${ }^{24}$

Hebrews 10:10 reads: "By that will we have been sanctified through the offering of the body of Jesus Christ once for all." There are two variants here:
(1) $\sigma \omega ́ \mu \alpha \tau \circ \varsigma-b o d y$
(2) aifatos—blood

Figure 4.10 displays the genealogical distribution of these variants.

[^25]Figure 4.10

## Distribution of 10:10,2



Variant 1 (body) has the consensus of all three first-generation recensions: Exemplar Ex152\#, the recension from which the Egyptian text tradition was derived, and Exemplar Ex-156\#, the recension from which the Antiochian text tradition was derived, and Exemplar Ex-151\#, the recension from which the Western 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, and the support of all the witnesses of the Western text tradition except MS D06*. It has the support of all the witnesses of the Antiochian text tradition. It has the greatest antiquity, the broadest distribution, and excellent persistence.

Variant 2 (blood) occurs independently in only lone MS: D06*. This singularity lacks antiquity, distribution, and persistence. Ehrman was right; a theological alteration occurred in one randomly distributed witness. But it had no effect on the orthodoxy of the canonical text.

## Hebrews 10:29,3

Regarding Hebrews 10:29 Ehrman stated:
Other changes in the text of Hebrews point in the same general direction, serving to eliminate any notion of imperfection in Jesus. This seems to be the best explanation of the omission found in an Alexandrian manuscript of Hebrews 10:29. The original text speaks of the one who "spurns the Son of God and disregards the blood of the covenant by which he was sanctified" ( $่ v \underset{\sim}{\varphi} \dot{\eta} \gamma เ \alpha \dot{\sigma} \sigma \eta \mathrm{sic}$ ). In codex Alexandrinus, however, the final clause ("by which he was sanctified") is omitted. Once again one might consider the possibility of a simple scribal error; but there is nothing in particular that might have caused such a slip, and the shorter text makes perfectly good sense in the context. Indeed, the omission can be construed as a clarification, for the subject of the verb
sanctified ( $\dot{\eta} \gamma \boldsymbol{\alpha} \sigma \theta \eta$ ) in the original text may be seen as ambiguous. Who is sanctified, the one who spurns Christ or Christ himself? The closest antecedent is "the Son of God," and it may be that the orthodox scribe of codex Alexandrinus, recognizing that the Son of God was not sanctified by the blood of the covenant, simply eliminated the possibility of interpreting the text in this way by deleting the words in question. ${ }^{25}$

Hebrews 10:29 reads: "Of how much worse punishment, do you suppose, will he be thought worthy who has trampled the Son of God underfoot, counted the blood of the covenant by which he was sanctified a common thing, and insulted the Spirit of grace?" There are two variants here:

(2) oult—omit

Figure 4.11 displays the genealogical distribution of these variants.
Figure 4.11
Distribution of 10:29:3


Variant 1 (by which he was sanctified) has the consensus of all three first-generation recensions: Exemplar Ex-152\#, the recension from which the Egyptian text tradition was derived, and Exemplar Ex-156\#, the recension from which the Antiochian text tradition was derived, and Exemplar Ex-151\#, the recension from which the Western 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 MS A* and its corrector, and the support of all the witnesses of the Western text tradition. It has the support of all

[^26]the witnesses of the Antiochian text tradition. It has the greatest antiquity, the broadest distribution, and excellent persistence.

Variant 2 (omit the phrase) occurs independently in only lone MS: A* and its corrector. This reading lacks antiquity, distribution, and persistence. Ehrman was right; a theological alteration occurred in one randomly distributed witness. But it had no effect on the orthodoxy of the canonical text.

## Other Variants of Theological Interest

The following is a discussion of some other passages in Hebrews where doctrinal issues have been raised by advocates of the Byzantine text tradition.

## Hebrews 2:7,1

Hebrews 2:7 reads: "You have made him a little lower than the angels; You have crowned him with glory and honor, And set him over the works of Your hands." Some witnesses have the words "And set him over the works of Your hands." The variants are:
(1) out
(2) $\kappa \alpha \iota \kappa \alpha \tau \in \sigma \tau \eta \sigma \alpha \varsigma \alpha \nu \tau o \nu \in \pi \iota \tau \alpha \in \rho \gamma \alpha \tau \omega \nu \quad \chi \in\llcorner\rho \omega \nu \sigma o u-$ And set him over the works of Your hands

Figure 4.12 displays the distribution of the variants throughout genealogical history.

## Figure 4.12 <br> Distribution of 2:7,1



This is another instance where the Lachmann-10 autographic reading differs from that of NA-27. Variant 2 has the consensus of all three first-generation recensions: Exemplar Ex-152\#, the recension from which the Egyptian text tradition was derived, and Exemplar Ex-156\#, the recension from which the Antiochian text tradition was derived, and Exemplar Ex-151\#, the recension from which the Western 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 MS B*\%. It has the support of all the witnesses in the Western text tradition except for MSS $\mathrm{P}^{\wedge} 46^{*}, \mathrm{~B}^{\wedge} \mathrm{c} \%$, and $\mathrm{vg}^{\wedge} \mathrm{b}$. It has the support of all the witnesses of the Antiochian text tradition except those in the sub-branch headed by third-generation Exemplar Ex149. It has the greatest antiquity, the broadest distribution, and good persistence. This is an instance where the TR stands against its fellow Byzantine witnesses.

Variant 1 was possibly first initiated in papyrus $\mathrm{P}^{\wedge} 46^{*}$ (c. AD 200) and then by mixture initiated in third-generation Exemplar Ex-149 of the Antiochian text tradition after which it persisted throughout the history of that branch. It was also initiated by mixture in MSS $\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}, \mathrm{B}^{*} \%$, $\mathrm{B}^{\wedge} \mathrm{c} \%$ and $\mathrm{vg}^{\wedge} \mathrm{b}$. This variant lacks antiquity, and distribution, but has persistence once initiated. This is an instance where the NA-27 text stands with the Byzantine text against its fellow witnesses in the Egyptian text tradition.

## Hebrews 10:9,1

Hebrews 10:9 reads: "Then He said, 'Behold, I have come to do Your will, O God.' He takes away the first that He may establish the second." In this passage some witnesses contain the phrase "O God" and some do not. The advocates of the Byzantine text object to omitting "God" from the quotation from Psalm 40. There are two variant readings here:
(1) omit
(2) $\delta \theta$ عós- O God

Figure 4.13 displays the distribution of these variants throughout genealogical history. Variant 1 (omit the phrase) has the consensus of two of the three first-generation recensions: Exemplar Ex-152\#, the recension from which the Egyptian text was derived, and Exemplar Ex-156\#, the recension from which the Antiochian text tradition was derived; so, it was assigned to the autograph, with a probability of $0.67(67 \%)$. This variant is supported by all the witnesses in the Egyptian text tradition, except for MSS $01^{\wedge} 2$ and $\mathrm{bo}^{\wedge} \mathrm{b} \%$. It is also supported by all the witnesses in the Antiochian text tradition, except those in the sub-branches headed by fourth-generation Exemplars Ex-141, Ex-146, and Ex-148; in addition, it is supported independently by MSS P^46*, D06*, and $\mathrm{it}^{\wedge} \mathrm{r}$. It has antiquity, distribution, and distribution.

Figure 4.13
Distribution of 10:9,1


Variant 2 is supported by all the witnesses in the Western text tradition headed by Exemplar Ex-151\#, except MSS P ${ }^{\wedge} 46^{*}$, D06*, and it^r. It is also supported by the witnesses in the branch of the Antiochan text tradition headed by fourth-generation Exemplars Ex-141, Ex-146, and Ex-148; in addition, it is supported independently by $S y^{\wedge} \mathrm{p} \%$, $\mathrm{bo}^{\wedge} \mathrm{b} \%$, and $01^{\wedge} 2$. The genealogical evidence indicates that the words $O$ God were not original. They lacks antiquity and distribution.

## Hebrews 12:20,1

Hebrews 12:20 reads: "For they could not endure what was commanded: 'And if so much as a beast touches the mountain, it shall be stoned or shot with an arrow.'" In this passage some witnesses contain the phrase "or shot with an arrow" and some do not. There are two variant readings here:
(1) out

Figure 4.14 displays the distribution of these variants throughout genealogical history. Variant 1 (omit the clause) has the consensus of all three first-generation recensions: Exemplar Ex152\#, the recension from which the Egyptian text tradition was derived, and Exemplar Ex-156\#, the recension from which the Antiochian text tradition was derived, and Exemplar Ex-151\#, the recension from which the Western 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, the support of all the witnesses of the Western text tradition, and the support of all the witnesses of the Antiochian text tradition. It has the greatest antiquity, the broadest distribution, and excellent persistence.

## Figure 4.14

Distribution of 12:20,1


Variant 2 (or shot with an arrow) occurs independently only in MS TR, Scrivener's text underlying the KJV. This singularity lack antiquity, distribution, and persistence.

## 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 four variants at variation unit 86 at reference 6:14,1:

Hebrews 6:14 reads: "saying, 'Surely blessing I will bless you, and multiplying I will multiply you.'" Here the author quoted Genesis 22:17 where the Hebrew text repeats the verb "blessing" as the idiom of certainty, which idiom the Septuagint (LXX) translated by supplying the words $\tilde{\eta} \mu \eta े v$. There are four alternate ways this idiom was rendered by copyists. 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:

| 86.1 | $6: 14,1.1$ | ' $\epsilon i \mu \eta \nu$ | 0.33 |
| :--- | :--- | :--- | :--- |

That is, the autographic reading is the first variant (77.2), ' $\epsilon i \quad \mu \eta \nu$ "surely" and that its probability is 0.33 ( $33 \%$ ).

Appendix F reads:

| 86.2 | $6: 14,1.2$ | Ex-156\# | $\hat{\eta} \mu \eta \nu$ |
| :--- | :--- | :--- | :--- |
| 86.3 | $6: 14,1.3$ | Ex-151\# | $\epsilon \iota \mu \eta$ |
| 86.4 | $6: 14,1.4$ | Ex-159\$ | ov $\tau \omega \varsigma ~ \delta \eta$ |

Variant 2 is $\hat{\eta} \mu \eta \nu$ "assuredly," initiated in virtual Exemplar Ex-137\$.
Variant 3 is $\epsilon\llcorner\mu \eta$ "if not" initiated in virtual Exemplar Ex-140\$.
Variant 4 is ov $\tau \omega \varsigma \delta \eta$ "truly" initiated in virtual Exemplar Ex-138\$.
Step 2: Using Appendix H, find where these variants were initiated in the history of the text.

Appendix H reads:

| 86.1 | $6: 14,1.1$ | $\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{D} 06^{*}\right]<2>;\left[104^{*} \%\right]<3>;[326]<4>;$ Autograph; |
| :--- | :--- | :--- |
| 86.2 | $6: 14,1.2$ | $\mathrm{Ex}-156 \#<1>;$ |
| 86.3 | $6: 14,1.3$ | $\left[\mathrm{D} 06^{\wedge} 1 \%\right]<4>;[\mathrm{L} 020 * \%]<2>;\left[\mathrm{L} 020^{\wedge} \mathrm{c} \%\right]<2>; \operatorname{Ex}-151 \#<1>;$ |
| 86.4 | $6: 14,1.4$ | $\left[0278^{*} \%\right]<2>;\left[0278^{\wedge} \mathrm{c} \%\right]<2>; \operatorname{Ex}-159 \$<1>;$ |

That is, the first variant was initiated in the Autograph, and by mixture it was subsequently introduced in $\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{D} 06^{*}\right]<2>;\left[104^{*} \%\right]<3>;[326]<4>$. The second variant was initiated in the Exemplar Ex-156\# alone. The third variant was initiated in Exemplar Ex-151\#, and by mixture it was subsequently introduced in [D06^1\%]<4>; [L020*\%]<2>; [L020^c\%]<2>. The fourth variant was initiated in virtual Exemplar Ex-159\$ and by mixture in $[0278 * \%]<2>$; $[0278 \wedge c \%]<2>$.

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), purple for the third variant (4), as illustrated in figure 4.15.

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 4.16. Witnesses marked with \% are fragmentary; their readings are often lacking; they may be ignored in this step.

Figure 4.15
Illustrating Marking Places of Initiation
At Hebrews 6:14,1


Figure 4.16
Distribution of Hebrews 6:14,1


Figure 4.16 indicates that no variant has superior consensus among the first-generation recensions. This is one of two places ${ }^{26}$ of variation in Hebrews where all three alternatives have a $33 \%$ probability of being original. In this case, Lachmann-10 selects variant 1, the reading of NA27 , as original under the assumption that it has the better internal evidence. Variant 1 is supported

[^27]by all the witnesses of the Egyptian text tradition headed by Exemplar Ex-152\#, together with MSS $\mathrm{P}^{\wedge} 46^{*}, \mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}, \mathrm{B}^{\wedge} \mathrm{c}, \mathrm{D} 06^{*}, 104^{*}$, and 326 . It lacks antiquity and distribution, it has the support of internal evidence: broader distribution in later generations.

Variant 2 is supported by all the witnesses in the Antiochian text tradition headed by Exemplar Ex-156\#, except for MS 326. Variant-3 is supported by all the witnesses in the Western text tradition headed by Exemplar Ex-151\#, except for MSS B^c\%, D06*, P^46*, and $104^{*} \%$. Variant 4 is supported by only MSS 326 and $1241 * \%$ in the Antiochian text tradition (not shown on the diagram). These readings lack antiquity and distribution.

## Conclusion

This chapter identifies the autographic readings of the Greek text of the Book of Hebrews 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. It discusses doctrinally significant passages and shows that the variant readings there do not alter the orthodoxy of Christian doctrine expressed in the earliest form of the text, but appear in peripheral, inconsequential branches.

## 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 Hebrews. The software made use of a modified version of the textual apparatus in the $27^{\text {th }}$ 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

[^28]where variants were initiated, in tracing the genealogical history of variants, and in identifying recensions.

## 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 18 out of 74 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

[^29]history of the text is determined by such diverse witnesses. However, Table 4.4 of Chapter 4 indicates that $98.92 \%$ 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 $91.02 \%$ 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 Hebrews. 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
January, 2021

## APPENDIX A

## List of Extant Witnesses to the Greek Text of the Book of Hebrews

This appendix contains a list of the extant witnesses to the Greek text of the Book of Hebrews. 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 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathrm{P}^{\wedge} 12 \%$ | 250 | 0 | 1:01 | 1 | 0.31\% |
| $\mathrm{P}^{\wedge} 13 * \%$ | 300 | 0 | $\begin{aligned} & \text { 2:14-4:6; 4:8-5:1; 5:4; 10:10-22, 29-11:6; 11:11-13, } \\ & 29-34,38-12: 11 ; 12: 15-16 \end{aligned}$ | 106 | 32.82\% |
| $\mathrm{P}^{\wedge} 13 \wedge \mathrm{c} \%$ | 350 | 0 | $\begin{aligned} & 2: 14-4: 6 ; 4: 8-5: 1 ; 5: 4 ; 10: 10-22,29-11: 6 ; 11: 11-13, \\ & 29-34,38-12: 11 ; 12: 15-16 \end{aligned}$ | 106 | 32.82\% |
| $\mathrm{P}^{\wedge} 17 \%$ | 350 | 0 | 9:12-19 | 5 | 1.55\% |
| $\mathrm{P}^{\wedge} 46^{*}$ | 200 | 0 | 1:1-7:6; 7:10-9:14; 9:19-11:2; 11:4-34, 37-13:25 | 312 | 96.59\% |
| $\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}$ | 200 | 0 | 1:1-7:6; 7:10-9:14; 9:19-11:2; 11:4-34, 37-13:25 | 312 | 96.59\% |
| $\mathrm{P}^{\wedge} 79 \%$ | 650 | 0 | 10:10-12, 28-30 | 10 | 3.10\% |
| $\mathrm{P}^{\wedge} 89 \%$ | 350 | 0 | 6:9, 17 | 5 | 1.55\% |
| 01* | 350 | 0 | 1:1-12:26; 12:28-13:25 | 322 | 99.69\% |
| $01^{\wedge} \mathrm{c}$ | 1150 | 0 | 1:1-3:6; 3:10-6:17; 6:19-7:6; 7:10-21, 24-8:1; 8:4-7, 9-11; 9:1-2, 4-9, 11-10:8; 10:10-11:4; 11:6-14, 17-33, 37-12:9; 12:15-26, 28-13:5; 13:7-12, 16-22, 24-25 | 266 | 82.35\% |
| 01^1 | 550 | 0 | 1:1-3:6; 3:10-6:17; 6:19-7:6; 7:10-21, 24-8:1; 8:4-7 9-11; 9:1-2, 4-9, 11-10:8; 10:10-11:4; 11:6-14, 17-33, 37-12:9; 12:15-26, 28-13:5; 13:7-12, 16-22, 24-25 | 267 | 82.66\% |
| 01^2 | 650 | 0 | 1:1-13:25 | 322 | 99.69\% |
| A* | 450 | 0 | 1:1-13:25 | 323 | 100.00\% |
| $\mathrm{A}^{\wedge} \mathrm{c}$ | 550 | 0 | 1:1-13:25 | 323 | 100.00\% |
| B*\% | 350 | 0 | 1:1-9:12 | 153 | 47.37\% |
| $\mathrm{B}^{\wedge} \mathrm{c} \%$ | 350 | 0 | 1:1-9:12 | 150 | 46.44\% |
| B^2\% | 600 | 0 | $\begin{aligned} & 1: 1-8,11-2: 6 ; 2: 9-17 ; 3: 10-4: 4 ; 4: 6,8-5: 1 ; 5: 4-6: 2 ; \\ & 6: 9-11,17,19-7: 2 ; 7: 11-14,17-18,24,27-8: 1 ; 8: 6-7, \\ & 9-11 ; 9: 1-2,4-9,12 \end{aligned}$ | 82 | 25.39\% |
| C*\% | 450 | 0 | 2:6-7:24; 9:17-10:23; 12:16-13:25 | 177 | 54.80\% |
| C^2\% | 550 | 0 | $\begin{aligned} & 2: 6-3: 3 ; 3: 6-7: 9 ; 7: 11-14,17-24 ; 9: 17-10: 23 ; 12: 16- \\ & 13: 25 \end{aligned}$ | 168 | 52.01\% |
| $\mathrm{C}^{\wedge} 3 \%$ | 850 | 0 | 2:6-7:6; 7:10-24; 9:17-10:23; 12:16-13:5; 13:7-25 | 173 | 53.56\% |
| D06* | 450 | 0 | 1:1-13:25 | 323 | 100.00\% |
| D06^c\% | 1150 | 0 | $\begin{aligned} & 1: 1-8,11-2: 6 ; 2: 8-3: 3 ; 3: 6,10-4: 4 ; 4: 6,8-5: 1 ; 5: 4- \\ & 6: 11 ; 6: 17-7: 2 ; 7: 6-9,11-8: 1 ; 8: 4-7,9-9: 2 ; 9: 4-9,12- \\ & 11: 2 ; 11: 4,6,11-14,17-19,23-31,33,38-12: 9 \\ & 12: 13-26,28-29 ; 13: 5-12,16-22,24-25 \end{aligned}$ | 228 | 70.59\% |
| D06^1\% | 600 | 0 | $\begin{aligned} & 1: 1-8,11-2: 6 ; 2: 8-3: 3 ; 3: 6,10-4: 6 ; 4: 8-5: 1 ; 5: 4-6: 14 \\ & 6: 17-7: 2 ; 7: 6-9,11-14,17-8: 1 ; 8: 4-7,9-9: 2 ; 9: 4-10 \\ & 12-11: 2 ; 11: 4-6,11-19,23-31,33-12: 9 ; 12: 13-26,28- \\ & 29 ; 13: 5-22,24-25 \end{aligned}$ | 255 | 78.95\% |
| D06^2 | 850 | 0 | $\begin{aligned} & 1: 1-4: 4 ; 4: 6-6: 11 ; 6: 16-9: 9 ; 9: 11-11: 4 ; 11: 6-33,38- \\ & 13: 12 ; 13: 16-25 \end{aligned}$ | 299 | 92.57\% |
| H015*\% | 550 | 0 | $\begin{aligned} & 1: 3-8 ; 2: 11-14 ; 3: 13-18 ; 4: 12 ; 10: 1-4,7,32-38 \\ & 12: 11-15 ; 13: 24-25 \end{aligned}$ | 42 | 13.00\% |
| H015^c\% | 600 | 0 | $\begin{aligned} & 1: 3-8 ; 2: 11-14 ; 3: 13-18 ; 4: 12 ; 10: 1-4,7,32-38 \\ & 12: 11-15 ; 13: 24-25 \end{aligned}$ | 42 | 13.00\% |
| I\% | 450 | 0 | $\begin{aligned} & 1: 1-3,11-12 ; 2: 4-6,14 ; 3: 4-6,14 ; 4: 3-6,12 ; 5: 6 ; 6: 2- \\ & 3,11 ; 7: 1-2,9,11,18,27-8: 1 ; 8: 7-9 ; 9: 1-11,17-26 ; \end{aligned}$ | 109 | 33.75\% |


|  |  |  | $\begin{aligned} & 10: 7-8,16-18,26-29,37-38 ; 11: 6,12-14,23,31-33, \\ & 39-12: 1 ; 12: 7-9,16,25-26 ; 13: 7-9,16-18,24-25 \end{aligned}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| K*\% | 850 | 0 | $\begin{aligned} & 1: 1-8,11-2: 6 ; 2: 9-17 ; 3: 4,10-4: 4 ; 4: 6,8-5: 1 ; 5: 4-6: 9 ; \\ & 6: 11,17,19-7: 2 ; 7: 11-14,17-21,24,27-8: 1 ; 8: 6-11 ; \\ & 9: 1-9,12-26 ; 10: 1-4,7,9-14,16-33,37-11: 2 ; 11: 4,6, \\ & 11-14,19,23-31,33,39-12: 9 ; 12: 15-25,28-29 ; 13: 5, \\ & 7-22,24-25 \end{aligned}$ | 191 | 59.13\% |
| L020*\% | 850 | 0 | $\begin{aligned} & 1: 1-8,11-2: 6 ; 2: 9-17 ; 3: 10-4: 4 ; 4: 6,8-5: 1 ; 5: 4-6: 9 ; \\ & 6: 11-14,17,19-7: 2 ; 7: 11-18,24,27-8: 1 ; 8: 6-7,9-11 ; \\ & 9: 1-9,12-26 ; 10: 1-4,7,10-14,16-33,37-11: 2 ; 11: 4 \\ & 6,11-14,19,23-31,33,37,39-12: 9 ; 12: 15-16,19-25, \\ & 27-29 ; 13: 5,7-9 \end{aligned}$ | 175 | 54.18\% |
| L020^c\% | 850 | 0 | $1: 1-8,11-2: 6 ; 2: 9-17 ; 3: 10-4: 4 ; 4: 6,8-5: 1 ; 5: 4-6: 9 ;$ $6111-14,17,19-7: 2 ; 7: 11-18,24,27-8: 1 ; 8: 6-7,9-11 ;$ $9: 1-9,12-26 ; 10: 1-4,7,10-14,16-33,37-11: 2 ; 11: 4$ $6,11-14,19,23-31,33,37,39-12: 9 ; 12: 15-16,19-25$, $27-29 ; 13: 5,7-9$ | 175 | 54.18\% |
| P025*\% | 850 | 0 | $\begin{aligned} & 1: 1-8,11-2: 7 ; 2: 9-17 ; 3: 3,6-4: 4 ; 4: 6-7: 2 ; 7: 6,11-24, \\ & 27-8: 1 ; 8: 4-11 ; 9: 1-10,12-10: 4 ; 1077-11: 15 ; 11: 19, \\ & 23-31,33,37-12: 25 ; 12: 28-13: 22 ; 13: 24-25 \\ & \hline \end{aligned}$ | 246 | 76.16\% |
| 044* | 1000 | 0 | 1:1-8:10; 9:25-13:25 | 299 | 92.57\% |
| 044^c | 1050 | 0 | 1:1-8:10; 9:25-13:25 | 299 | 92.57\% |
| 48\% | 450 | 0 | 11:33, 37; 12:3-26, 28-29 | 38 | 11.76\% |
| 75\% | 500 | 0 | 1:1-11:37 | 250 | 77.40\% |
| 122\% | 850 | 0 | 5:11-6:9 | 9 | 2.79\% |
| 150 | 850 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 227\% | 450 | 0 | 11:19 | 1 | 0.31\% |
| 0243*\% | 950 | 0 | 1:1-4:3; 12:20-13:25 | 99 | 30.65\% |
| 0243^${ }^{\text {¢ }}$ \% | 1000 | 0 | 1:1-4:3; 12:20-13:25 | 99 | 30.65\% |
| 252\% | 450 | 0 | 6:02 | 2 | 0.62\% |
| 0278*\% | 850 | 0 | 1:1-4:4; 4:6-10:12 | 181 | 56.04\% |
| 0278^${ }^{\text {¢ }} \%$ | 900 | 0 | 1:1-4:4; 4:6-10:12 | 181 | 56.04\% |
| 285\% | 550 | 0 | 8:9-9:1; 9:25-10:2; 11:3-6; 12:22-29; 13:5-25 | 58 | 17.96\% |
| 6 | 1250 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 13 | 1250 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 33* | 850 | 0 | 1:1-13:25 | 323 | 100.00\% |
| $33^{\wedge} \mathrm{c}$ | 900 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 69 | 1450 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 81*\% | 1044 | 0 | 1:1-8, 11-2:7; 2:9-17; 3:6-6:11; 6:16-17, 19-7:2; 7:69, 11-24, 27-8:1; 8:4-9:2; 9:4-10, 12-10:4; 10:7-8, 10-18, 23-11:15; 11:19-31, 33, 37, 39-12:9; 12:1525, 28-13:5; 13:7-12, 16-25 | 245 | 75.85\% |
| 104*\% | 1087 | 0 | 1:1-8, 11-2:17; 3:10-4:4; 4:6-6:14; 6:17, 19-7:2; 7:6, $11-14,17-18,24-8: 1 ; 8: 6-7,9-11 ; 9: 1-2,4-10,12-26 ;$ , 10:1-4, 7-8, 10-11:2; 11:4, 6-15, 19, 23-33, 39-12:11; 12:15-25, 28-29; 13:5, 7-12, 16-25 | 220 | 68.11\% |

Appendix A:
List of Extant Witnesses to Hebrews

| 257 | 1350 | 0 | 1:1-13:25 | 323 | 100.00\% |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 323* | 1150 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 326 | 950 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 346 | 1150 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 365\% | 1150 | 0 | $1: 1-8,11-2: 7 ; 2: 9-17 ; 3: 9-4: 4 ; 4: 6,8-5: 1 ; 5: 4-6: 11 ;$ 6:17, 19-7:2; 7:6, 10-18, 22-24, 27-8:1; 8:4-11; 9:1-2, 4-9, 12-26; 10:1-4, 7, 10-11:2; 11:4-15, 19, 23-33, $38-12: 9 ; 12: 15-25,28-13: 5 ; 13: 7-12,16-25$ | 221 | 68.42\% |
| 424* | 1100 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 424^c | 1100 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 440 | 1150 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 460 | 1250 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 462 | 1100 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 467 | 1450 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 543 | 1150 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 614* | 1250 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 629* | 1350 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 629^c | 1350 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 630\% | 1300 | 0 | 1:1-8, 11-2:6; 2:9-17; 3:6, 10-4:4; 4:6, 8-5:1; 5:4-6:9; 6:11, 17, 19-7:2; 7:9, 11-18, 24, 27-8:1; 8:6-7, 9-11; 9:1-2, 4-9, 12-26; 10:1-4, 7, 10-14, 16-18, 23-33, 3711:2; 11:4, 6, 11-14, 19, 23-31, 33, 39-12:11; 12:15-$16,19-25,29 ; 13: 5,7-12,16-22,24-25$ | 183 | 56.66\% |
| 788 | 1050 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 826 | 1150 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 828 | 1150 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 945 | 1050 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 983 | 1150 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 1175*\% | 950 | 0 | $\begin{aligned} & \text { 3:6, 10-4:4;4:6, 8-5:1; 5:4-6:2; 8:6-7, 9-11; 9:1-2, 4- } \\ & 9,12-26 ; 10: 1-4,7-8 ; 11: 23-31,33,39-12: 2 ; 13: 21- \\ & 22,24-25 \end{aligned}$ | 68 | 21.05\% |
| 1241*\% | 1150 | 0 | 1:1-8, 11-2:6; 2:9-17; 3:10-4:4; 4:6, 8-5:1; 5:4-6:9; 6:11, 17, 19-7:2; 7:11-14, 17-18, 24, 27-8:1; 8:6-7, 911; 9:1-9, 12-26; 10:1-4, 7, 10-14, 16-33, 37-11:15; 11:19-33, 37-12:9; 12:15-29; 13:5, 7-12, 16-25 | 207 | 64.09\% |
| 1505*\% | 1150 | 0 | $\begin{array}{\|l} \hline 1: 1-8,11-2: 7 ; 2: 9-17 ; 3: 3,10-4: 4 ; 4: 6-6: 11 ; 6: 16-7: 2 ; \\ 7: 6-14,17-18,24,27-8: 1 ; 8: 4-11 ; 9: 1-9,12-10: 4 ; \\ 10: 7-18,23-11: 2 ; 11: 4,6,11-19,23-31,33,37,39- \\ 12: 9 ; 12: 15-16,19-25,28-29 ; 13: 5,7-12,16-22,24- \\ 25 \\ \hline \end{array}$ | 217 | 67.18\% |
| 1518 | 1400 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 1739* | 900 | 0 | 1:1-13:25 | 323 | 100.00\% |
| $1739^{\wedge} \mathrm{c}$ | 950 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 1881* | 1350 | 0 | 1:1-13:25 | 323 | 100.00\% |
| $1881^{\wedge} \mathrm{c}$ | 1400 | 0 | 1:1-13:25 | 323 | 100.00\% |


| 1908 | 1050 | 0 | 1:1-13:25 | 323 | 100.00\% |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1912 | 950 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 2464*\% | 850 | 0 | $\begin{aligned} & \text { 1:1-8, 11-2:17; 3:10-4:4; 4:6-6:14; 6:17, 19-7:1; } \\ & 7: 17-21,24,27-8: 1 ; 8: 4-11 ; 9: 1-2,4-10,12-19 ; 10: 7- \\ & 18 \\ & \hline \end{aligned}$ | 117 | 36.22\% |
| 2492 | 1350 | 0 | 1:1-13:25 | 323 | 100.00\% |
| $\mathrm{pm}^{\wedge} \mathrm{a}$ | 850 | 0 | 1:1-13:25 | 323 | 100.00\% |
| $\mathrm{pm}^{\wedge} \mathrm{b}$ | 850 | 0 | 1:1-13:25 | 323 | 100.00\% |
| TR | 1892 | 0 | 1:1-13:25 | 323 | 100.00\% |
| HF | 1982 | 0 | 1:1-13:25 | 323 | 100.00\% |
| RP | 2005 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 1^249 | 850 | 0 | 1:1-13:25 | 323 | 100.00\% |
| 1^846 | 850 | 0 | 1:1-13:25 | 323 | 100.00\% |
| $\operatorname{vg}^{\wedge} \mathrm{a}$ | 400 | 1 | 1:1-3:3; 3:6-5:1; 5:4-6:17; 6:19-7:4; 7:9, 11-14, $17-$ 24, 27-9:2; 9:4-10:4; 10:7-11:6; 11:11-14, 17-33, 3537, 39-12:11; 12:15-26, 28-13:25 | 265 | 82.04\% |
| $\operatorname{vg}^{\wedge} \mathrm{b}$ | 400 | 1 | $\begin{aligned} & 1: 1-3: 3 ; 3: 6-5: 1 ; 5: 4-6: 17 ; 6: 19-7: 4 ; 7: 9,11-14,17- \\ & 24,27-9: 2 ; 9: 4-11: 6 ; 11: 11-14,17-33,35-37,39- \\ & 12: 11 ; 12: 15-26,28-13: 25 \end{aligned}$ | 268 | 82.97\% |
| $\mathrm{vg}^{\wedge} \mathrm{cl}$ | 1592 | 1 | $\begin{aligned} & 1: 1-3: 3 ; 3: 6-6: 17 ; 6: 19-7: 4 ; 7: 9,11-14,17-24,27- \\ & 9: 2 ; 9: 4-11: 6 ; 11: 11-14,17-33,35-37,39-12: 11 ; \\ & 12: 15-26,28-13: 25 \end{aligned}$ | 270 | 83.59\% |
| $\operatorname{vg}^{\wedge} \mathrm{s}$ | 1590 | 1 | $\begin{aligned} & 1: 1-3: 3 ; 3: 6-5: 1 ; 5: 4-6: 17 ; 6: 19-7: 4 ; 7: 9,11-14,17- \\ & 24,27-9: 2 ; 9: 4-10: 4 ; 10: 7-11: 6 ; 11: 11-14,17-33,35- \\ & 37,39-12: 11 ; 12: 15-26,28-13: 25 \\ & \hline \end{aligned}$ | 265 | 82.04\% |
| $\mathrm{vg}^{\wedge} \mathrm{st}$ | 1994 | 1 | 1:1-3:3; 3:6-5:1; 5:4-6:17; 6:19-7:4; 7:9, 11-14, $17-$ <br> 24, 27-9:2; 9:4-10:4; 10:7-11:6; 11:11-14, 17-33, $35-$ <br> 37, 39-12:11; 12:15-26, 28-13:25 | 268 | 82.97\% |
| $\mathrm{vg}^{\wedge} \mathrm{ww}$ | 1889 | 1 | 1:1-3:3; 3:6-6:17; 6:19-7:4; 7:9, 11-14, 17-24, 279:2; 9:4-10:4; 10:7-11:6; 11:11-14, 17-33, 35-37, 3912:11; 12:15-26, 28-13:25 | 268 | 82.97\% |
| it-ar | 950 | 1 | $\begin{aligned} & 1: 1-3: 3 ; 3: 6-6: 17 ; 6: 19-7: 4 ; 7: 9,11-14,17-24,27- \\ & 9: 2 ; 9: 4-10: 4 ; 10: 7-11: 6 ; 11: 11-14,19-33,35-37,39- \\ & 12: 11 ; 12: 15-26,28-13: 25 \end{aligned}$ | 268 | 82.97\% |
| it-b* | 450 | 1 | $\begin{aligned} & 1: 1-3: 3 ; 3: 6-6: 17 ; 6: 19-7: 4 ; 7: 9,11-14,17-24,27- \\ & 9: 2 ; 9: 4-10: 4 ; 10: 7-11: 6 ; 11: 11-14,17-33,35-37,39- \\ & 12: 11 ; 12: 15-26,28-13: 25 \end{aligned}$ | 270 | 83.59\% |
| it-d | 450 | 1 | 1:1-3:3; 3:6-5:1; 5:4-6:17; 6:19-7:4; 7:9, 11-14, $17-$ 24, 27-9:2; 9:4-9, 11-10:4; 10:7-11:6; 11:11-14, 1933, 35-37, 39-12:11; 12:15-26, 28-13:25 | 267 | 82.66\% |
| it-f* | 550 | 1 | $\begin{aligned} & 1: 1-3: 3 ; 3: 6-5: 1 ; 5: 4-6: 17 ; 6: 19-7: 4 ; 7: 9,11-14,17- \\ & 24,27-9: 2 ; 9: 4-9,11-10: 4 ; 10: 7-11: 6 ; 11: 11-14,19- \\ & 33,35-37,39-12: 11 ; 12: 15-26,28-13: 25 \end{aligned}$ | 263 | 81.42\% |
| it-mu | 450 | 1 | 1:1-3:3;3:6-5:1; 5:4-6:17; 6:19-7:4; 7:9, 11-14, 1724, 27-9:2; 9:4-9, 11-10:4; 10:7-11:6; 11:11-14, 1933, 35-37, 39-12:11; 12:15-26, 28-13:25 | 262 | 81.11\% |
| it-r\% | 700 | 1 | $\begin{aligned} & \text { 6:9-17, 19-7:4; 7:9, 11-14, 17-24, 27-8:1; 9:28-10:9; } \\ & 10: 11-11: 6 \end{aligned}$ | 82 | 25.39\% |


| it-t\% | 1000 | 1 | $\begin{aligned} & 1: 1-12 ; 2: 9-3: 2 ; 9: 11-19 ; 10: 32-38 ; 11: 13-14,33,37, \\ & 39-12: 2 ; 12: 15-26,28 \end{aligned}$ | 69 | 21.36\% |
| :---: | :---: | :---: | :---: | :---: | :---: |
| it-v\% | 800 | 1 | 1:1-3:3; 3:6-4:3 | 53 | 16.41\% |
| it-z*\% | 750 | 1 | $\begin{aligned} & \text { 10:1-4, 7-11:6; 11:11-14, 17-33, 35-37, 39-12:11; } \\ & 12: 15-26,28-13: 25 \end{aligned}$ | 135 | 41.80\% |
| it-z^c\% | 800 | 1 | $\begin{aligned} & 10: 1-4,7-11: 6 ; 11: 11-14,17-33,35-37,39-12: 11 \\ & 12: 15-26,28-13: 25 \end{aligned}$ | 134 | 41.49\% |
| sy^h\% | 616 | 1 | $\begin{aligned} & 1: 1-2: 6 ; 2: 8-3: 2 ; 3: 9-4: 6 ; 4: 8-6: 2 ; 6: 9-11,17,19-7: 4 ; \\ & 7: 11-14,17-8: 7 ; 8: 9-9: 2 ; 9: 4-10: 8 ; 10: 10-14,16-18, \\ & 23-11: 6 ; 11: 11-15,19-33,37,39-12: 11 ; 12: 15-25, \\ & 29-13: 25 \end{aligned}$ | 241 | 74.61\% |
| sy^p\% | 425 | 1 | $\begin{aligned} & 1: 1-8,11-3: 2 ; 3: 6-4: 4 ; 4: 6-6: 2 ; 6: 9-11,17,19-7: 4 ; \\ & 7: 11-14,17-8: 7 ; 8: 9-9: 2 ; 9: 4-9,11-10: 14 ; 10: 16-18, \\ & 23-11: 6 ; 11: 11-14,19-33,37,39-12: 11 ; 12: 15-25, \\ & 29-13: 12 ; 13: 16-25 \end{aligned}$ | 241 | 74.61\% |
| sa^a\% | 250 | 1 | $\begin{aligned} & 1: 1-8,11-2: 7 ; 2: 9-3: 2 ; 3: 6-4: 4 ; 4: 6,8-6: 2 ; 6: 9-11,16- \\ & 17,19-7: 4 ; 7: 11-14,17-8: 1 ; 8: 4-9: 2 ; 9: 4-10: 4 ; 10: 7, \\ & 10-11: 2 ; 11: 4,6,11-14,19,23-31,33,37,39-12: 9 ; \\ & 12: 15-26,28-29 ; 13: 5,7-12,16-22,24-25 \\ & \hline \end{aligned}$ | 220 | 68.11\% |
| sa^b\% | 250 | 1 | $1: 1-8,11-2: 7 ; 2: 9-3: 2 ; 3: 6-4: 6 ; 4: 8-6: 11 ; 6: 16-17,19-$ $7: 4 ; 7: 9,11-14,17-8: 1 ; 8: 4-9: 2 ; 9: 4-10: 8 ; 10: 10-11: 2$; 11:4, 6, 11-14, 19, 23-31, 33, 37, 39-12:9; 12:15-26, 28-29; 13:5, 7-12, 16-22, 24-25 | 234 | 72.45\% |
| bo^a\% | 250 | 1 | $\begin{aligned} & 1: 1-8,11-3: 2 ; 3: 6-4: 6 ; 4: 8-6: 11 ; 6: 16-17,19-7: 4 ; 7: 9, \\ & 11-14,17-8: 1 ; 8: 4-9: 2 ; 9: 4-9,11-10: 8 ; 10: 10-11: 2 ; \\ & 11: 4-6,11-14,19,23-31,33,37,39-12: 9 ; 12: 15-26, \\ & 28-29 ; 13: 5,7-12,16-22,24-25 \end{aligned}$ | 238 | 73.68\% |
| bo^b\% | 250 | 1 | $\begin{aligned} & 1: 1-8,11-3: 2 ; 3: 6-4: 6 ; 4: 8-6: 11 ; 6: 16-17,19-7: 4 ; 7: 9, \\ & 11-14,17-8: 1 ; 8: 4-9: 2 ; 9: 4-9,11-11: 2 ; 11: 4-6,11-14, \\ & 19,23-31,33,37,39-12: 9 ; 12: 15-26,28-29 ; 13: 5,7- \\ & 12,16-22,24-25 \end{aligned}$ | 240 | 74.30\% |
| NA-27 | 1979 | 0 | 1:1-13:25 | 323 | 100.00\% |
| Ambr\% | 397 | 1 | 2:9; 3:2, 9; 7:27; 9:14; 10:16; 13:4 | 8 | 2.48\% |
| Ath\% | 373 | 0 | 1:12; 11:3 | 3 | 0.93\% |
| Aug^a\% | 430 | 1 | 6:9; 7:27; 9:26; 10:4; 11:11, 19; 12:11 | 7 | 2.17\% |
| Aug^b\% | 430 | 1 | 11:39 | 1 | 0.31\% |
| $\mathrm{Cl}{ }^{\wedge} \mathrm{a} \%$ | 215 | 0 | $\begin{aligned} & \text { 3:9-10; 5:12; 10:34, 38; 11:3-4, 32, 37-40; 12:15-16, } \\ & 23 ; 13: 4 \end{aligned}$ | 23 | 7.12\% |
| Cyr^a\% | 444 | 0 | \#\#\#\#\#\#\#\# | 5 | 1.55\% |
| CyrJ\% | 386 | 0 | 11:19 | 2 | 0.62\% |
| Cl^lat\% | 215 | 1 | 1:01 | 1 | 0.31\% |
| $\operatorname{Did}^{\wedge} \mathrm{a} \%$ | 398 | 0 | 5:12 | 1 | 0.31\% |
| Epiph^a\% | 403 | 0 | 7:6; 11:4, 6, 32; 13:5 | 5 | 1.55\% |
| Eus^a\% | 339 | 0 | 6:18; 7:21, 26; 8:1-2; 9:11, 26; 11:37-39; 13:4 | 12 | 3.72\% |
| Eus^b\% | 339 | 0 | 6:18; 7:21, 26; 8:1-2; 9:11, 26; 11:37-39; 13:4 | 12 | 3.72\% |
| Fulg\% | 527 | 1 | 2:09 | 1 | 0.31\% |
| Hier^a\% | 420 | 1 | 3:6; 10:26 | 2 | 0.62\% |

Appendix A:

| Hier^b\% $^{\wedge} 420$ | 1 | $2: 9 ; 3: 6 ; 4: 12 ; 10: 26 ; 11: 15$ | 5 | $1.55 \%$ |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Hes\% | 451 | 0 | $11: 38$ | 1 | $0.31 \%$ |
| Hil\% | 367 | 1 | $12: 23$ | 1 | $0.31 \%$ |
| Lcf\% | 371 | 1 | $3: 6-9 ; 4: 2$ | 6 | $1.86 \%$ |
| Marc\% | 430 | 0 | $10: 26$ | 1 | $0.31 \%$ |
| Or^a\% $^{\wedge}$ a | 254 | 0 | $1: 9 ; 5: 12 ; 8: 2 ; 11: 37-38$ | 5 | $1.55 \%$ |
| Or^b\% $^{2} 254$ | 0 | $1: 9,14 ; 2: 9 ; 5: 12 ; 8: 2 ; 11: 37-38$ | 7 | $2.17 \%$ |  |

## 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, 10-1:6,2 indicates that the $10^{\text {th }}$ place of variation occurs in chapter 1 , verse 6 , and is the $2^{\text {th }}$ place of variation in that verse.

Reference at Each Place of Variation

| 1-1:1,1 | 2-1:2,1 | 3-1:2,2 | 4-1:2,3 | 5-1:3,1 | 6-1:3,2 | 7-1:3,3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8-1:3,4 | 9-1:4,1 | 10-1:7,1 | 11-1:7,2 | 12-1:8,1 | 13-1:8,2 | 14-1:8,3 |
| 15-1:8,4 | 16-1:9,1 | 17-1:11,1 | 18-1:12,1 | 19-1:12,2 | 20-1:14,1 | 21-2:1,1 |
| 22-2:2,1 | 23-2:4,1 | 24-2:4,2 | 25-2:4,3 | 26-2:6,1 | 27-2:7,1 | 28-2:8,1 |
| 29-2:8,2 | 30-2:9,1 | 31-2:11,1 | 32-2:14,1 | 33-2:17,1 | 34-3:2,1 | 35-3:3,1 |
| 36-3:4,1 | 37-3:6,1 | 38-3:6,2 | 39-3:6,3 | 40-3:9,1 | 41-3:9,2 | 42-3:10,1 |
| 43-3:10,2 | 44-3:13,1 | 45-3:13,2 | 46-3:13,3 | 47-3:14,1 | 48-3:17,1 | 49-3:17,2 |
| 50-3:18,1 | 51-4:1,1 | 52-4:2,1 | 53-4:2,2 | 54-4:3,1 | 55-4:3,2 | 56-4:3,3 |
| 57-4:3,4 | 58-4:4,1 | 59-4:5,1 | 60-4:6,1 | 61-4:7,1 | 62-4:8,1 | 63-4:11,1 |
| 64-4:12,1 | 65-4:12,2 | 66-4:16,1 | 67-5:1,1 | 68-5:3,1 | 69-5:3,2 | 70-5:3,3 |
| 71-5:4,1 | 72-5:4,2 | 73-5:6,1 | 74-5:11,1 | 75-5:12,1 | 76-5:12,2 | 77-5:12,3 |
| 78-5:13,1 | 79-6:2,1 | 80-6:2,2 | 81-6:3,1 | 82-6:9,1 | 83-6:10,1 | 84-6:10,2 |
| 85-6:11,1 | 86-6:14,1 | 87-6:16,1 | 88-6:17,1 | 89-6:17,2 | 90-6:17,3 | 91-6:17,4 |
| 92-6:18,1 | 93-6:19,1 | 94-7:1,1 | 95-7:1,2 | 96-7:2,1 | 97-7:4,1 | 98-7:6,1 |
| 99-7:6,2 | 100-7:9,1 | 101-7:10,1 | 102-7:11,1 | 103-7:11,2 | 104-7:11,3 | 105-7:13,1 |
| 106-7:13,2 | 107-7:14,1 | 108-7:14,2 | 109-7:16,1 | 110-7:17,1 | 111-7:17,2 | 112-7:18,1 |
| 113-7:21,1 | 114-7:21,2 | 115-7:22,1 | 116-7:22,2 | 117-7:24,1 | 118-7:26,1 | 119-7:27,1 |
| 120-7:27,2 | 121-7:27,3 | 122-7:28,1 | 123-8:1,1 | 124-8:1,2 | 125-8:2,1 | 126-8:4,1 |
| 127-8:4,2 | 128-8:4,3 | 129-8:6,1 | 130-8:6,2 | 131-8:6,3 | 132-8:7,1 | 133-8:8,1 |
| 134-8:9,1 | 135-8:10,1 | 136-8:10,2 | 137-8:10,3 | 138-8:11,1 | 139-8:11,2 | 140-8:11,3 |
| 141-8:12,1 | 142-9:1,1 | 143-9:1,2 | 144-9:2,1 | 145-9:2,2 | 146-9:3,1 | 147-9:4,1 |
| 148-9:4,2 | 149-9:9,1 | 150-9:9,2 | 151-9:10,1 | 152-9:11,1 | 153-9:12,1 | 154-9:14,1 |
| 155-9:14,2 | 156-9:14,3 | 157-9:17,1 | 158-9:19,1 | 159-9:19,2 | 160-9:19,3 | 161-9:25,1 |
| 162-9:26,1 | 163-9:26,2 | 164-9:28,1 | 165-10:1,1 | 166-10:1,2 | 167-10:1,3 | 168-10:1,4 |
| 169-10:2,1 | 170-10:4,1 | 171-10:4,2 | 172-10:6,1 | 173-10:7,1 | 174-10:8,1 | 175-10:8,2 |
| 176-10:9,1 | 177-10:10,1 | 178-10:10,2 | 179-10:11,1 | 180-10:11,2 | 181-10:12,1 | 182-10:12,2 |
| 183-10:13,1 | 184-10:14,1 | 185-10:15,1 | 186-10:16,1 | 187-10:16,2 | 188-10:17,1 | 189-10:17,2 |
| 190-10:17,3 | 191-10:18,1 | 192-10:22,1 | 193-10:23,1 | 194-10:24,1 | 195-10:25,1 | 196-10:25,2 |
| 197-10:26,1 | 198-10:26,2 | 199-10:26,3 | 200-10:28,1 | 201-10:29,1 | 202-10:29,2 | 203-10:29,3 |
| 204-10:30,1 | 205-10:30,2 | 206-10:30,3 | 207-10:32,1 | 208-10:33,1 | 209-10:34,1 | 210-10:34,2 |
| 211-10:34,3 | 212-10:37,1 | 213-10:38,1 | 214-10:38,2 | 215-11:1,1 | 216-11:2,1 | 217-11:3,1 |
| 218-11:4,1 | 219-11:4,2 | 220-11:4,3 | 221-11:5,1 | 222-11:6,1 | 223-11:6,2 | 224-11:8,1 |
| 225-11:8,2 | 226-11:11,1 | 227-11:11,2 | 228-11:11,3 | 229-11:12,1 | 230-11:12,2 | 231-11:13,1 |
| 232-11:13,2 | 233-11:14,1 | 234-11:15,1 | 235-11:15,2 | 236-11:17,1 | 237-11:19,1 | 238-11:19,2 |
| 239-11:20,1 | 240-11:23,1 | 241-11:29,1 | 242-11:29,2 | 243-11:31,1 | 244-11:31,2 | 245-11:32,1 |
| 246-11:32,2 | 247-11:33,1 | 248-11:34,1 | 249-11:35,1 | 250-11:37,1 | 251-11:38,1 | 252-11:39,1 |
| 253-11:39,2 | 254-11:40,1 | 255-12:1,1 | 256-12:1,2 | 257-12:2,1 | 258-12:2,2 | 259-12:3,1 |
| 260-12:3,2 | 261-12:3,3 | 262-12:3,4 | 263-12:4,1 | 264-12:4,2 | 265-12:5,1 | 266-12:5,2 |
| 267-12:7,1 | 268-12:7,2 | 269-12:9,1 | 270-12:9,2 | 271-12:11,1 | 272-12:13,1 | 273-12:15,1 |


| $274-12: 15,2$ | $275-12: 15,3$ | $276-12: 16,1$ | $277-12: 16,2$ | $278-12: 18,1$ | $279-12: 18,2$ | $280-12: 19,1$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $281-12: 19,2$ | $282-12: 20,1$ | $283-12: 21,1$ | $284-12: 22,1$ | $285-12: 22,2$ | $286-12: 23,1$ | $287-12: 23,2$ |
| $288-12: 23,3$ | $289-12: 24,1$ | $290-12: 24,2$ | $291-12: 25,1$ | $292-12: 25,2$ | $293-12: 25,3$ | $294-12: 26,1$ |
| $295-12: 27,1$ | $296-12: 28,1$ | $297-12: 28,2$ | $298-12: 28,3$ | $299-12: 29,1$ | $300-13: 4,1$ | $301-13: 5,1$ |
| $302-13: 5,2$ | $303-13: 6,1$ | $304-13: 7,1$ | $305-13: 8,1$ | $306-13: 9,1$ | $307-13: 9,2$ | $308-13: 10,1$ |
| $309-13: 12,1$ | $310-13: 15,1$ | $311-13: 16,1$ | $312-13: 17,1$ | $313-13: 18,1$ | $314-13: 20,1$ | $315-13: 21,1$ |
| $316-13: 21,2$ | $317-13: 21,3$ | $318-13: 21,4$ | $319-13: 22,1$ | $320-13: 23,1$ | $321-13: 24,1$ | $322-13: 25,1$ |
| $323-13: 25,2$ |  |  |  |  |  |  |

# Appendix C <br> <br> The Genealogical Tree Diagram of 

 <br> <br> The Genealogical Tree Diagram of}

The Textual History of the Book of Hebrews

This appendix contains the tree diagram of the genealogical history of the Greek text of the Book of Hebrews. 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 downward. Sibling daughter descendants are linked by vertical lines. For example, the first-generation descendants of the autograph are Ex-151\#, ${ }^{60}$ Ex-152\#, and Ex-156\#. 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 brackets []; (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.


[^30]
## Genealogical Tree of Hebrews

```
Autograph[0.00]<0> { AD 75 }/0/0/0
    |-Ex-152#[0.96]<1> {AD 165}/14/14/3
        |-P^13^c% [0.70]<2>{AD 350}/32/14/4
        -C*%[0.85]<2>{AD 450}/27/14/4
    --^^2%[0.88]<2>{AD 550}/21/14/5
    --C^3%[0.84]<2>{AD 850}/27/14/6
    |-K*%[0.92]<2> {AD 850}/15/14/4
    |-L020*%[0.93]<2>{AD 850}/13/14/4
    -L020^c%[0.93]<2>{AD 850}/13/14/4
    |-P025*%[0.84]<2>{AD 850}/40/14/4
    |-048%[0.92]<2>{AD 450}/3/14/3
    |-81*%[0.89]<2>{AD 1044}/27/14/5
    |-1175*%[0.99]<2>{AD 950}/1/14/2
    |-1241*%[0.91]<2>{AD 1150}/18/14/4
    |-1505*%[0.85]<2>{AD 1150}/33/14/6
    |-2464*%[0.91]<2>{AD 850}/11/14/4
    |-sa^a%[0.90]<2>{AD 250}/22/14/3
    |-sa^b%[0.87]<2>{AD 250}/30/14/4
    |-bo^b%[0.87]<2>{AD 250}/31/14/6
    |-NA-27[0.89]<2>{AD 1979}/36/14/4
    --Cl^a%[0.57]<2>{AD 215}/10/14/3
    |-Ex-145[0.90]<2>{AD 800}/33/14/6
    | |-33*[1.00]<3>{AD 850}/0/33/1
    |-33^c[1.00]<3>{AD 900}/1/33/3
    |-Ex-142[0.93]<2>{AD 286}/24/14/4
        -01^c[1.00]<3>{AD 1150}/0/24/1
        -01*[0.90]<3>{AD 350}/32/24/4
        |-01^1[0.99]<3> { AD 550}/2/24/3
        |-01^2[0.89]<3>{AD 650}/37/24/6
        |-B*%[0.67]<3>{AD 350}/50/24/6
        |-I%[0.91]<3>{AD 450}/10/24/3
        |-Lcf%[0.67]<3>{AD 371}/2/24/3
        |-Ex-136[0.86]<3>{AD 336}/44/24/7
        |-A*[1.00]<4>{AD 450}/0/44/1
        --A^c[1.00]<4>{AD 550}/0/44/1
        |-Aug^b%[1.00]<4> {AD 430}/0/44/1
        |-CyrJ%[1.00]<4> {AD 386}/0/44/1
    -Ex-151#[0.90]<1>{AD 150}/27/27/2
    |-it-b*[0.92]<2>{AD 450}/22/27/6
    |-P^46*[0.62]<2>{AD 200}/98/27/5
    b
```

```
a b
    |-B^c%[0.61]<2> {AD 350}/48/27/5
    |-D06*[0.60]<2>{AD 450}/107/27/6
    |-H015*%[0.90]<2> {AD 550}/4/27/3
    |-0278*%[0.79]<2>{AD 850}/31/27/6
    |-0278^c%[0.79]<2>{AD 900}/31/27/6
    |-365%[0.85]<2>{AD 1150}/30/27/5
    |-Aug^a%[0.20]<2>{AD 430}/4/27/4
    --Did^a%[1.00]<2>{AD 398}/0/27/1
    |-Epiph^a%[1.00]<2>{AD 403}/0/27/1
    --Eus^a%[0.14]<2>{AD 339}/6/27/3
    --Or^a%[0.50]<2>{AD 254}/2/27/2
    -Or^b%[0.50]<2>{AD 254}/3/27/3
    |-Ex-150[0.98]<2>{AD 300}/5/27/5
        |-it-mu[0.99]<3>{AD 450}/3/5/3
        |-104*%[0.82]<3>{AD 1087}/36/5/8
        --it-d[0.96]<3>{AD 450}/10/5/5
        |-it-r%[0.90]<3>{AD 700}/8/5/5
        -it-t%[0.88]<3>{AD 1000}/8/5/5
        |-it-v%[0.94]<3>{AD 800}/3/5/2
        |-it-z*%[0.92]<3>{AD 750}/11/5/7
        --it-z^c%[0.91]<3>{AD 800}/12/5/7
        |-Ex-139[1.00]<3>{AD 350}/1/5/3
        |-vg^s[1.00]<4> {AD 1590}/0/1/1
        |-vg^a[1.00]<4> {AD 400}/0/1/1
        -it-f*[1.00]<4>{AD 550}/1/1/2
        -vg^b[0.82]<4> {AD 400}/49/1/8
        -vg^st[1.00]<4>{AD 1994}/1/1/2
        |-Ex-138[1.00]<4>{AD 900}/1/1/2
            |-vg^ww[1.00]<5>{AD 1889}/1/1/2
            |-it-ar[0.94]<5>{AD 950}/16/1/8
            --vg^cl[0.97]<5>{AD 1592}/7/1/6
|-Ex-156#[0.92]<1>{AD 80}/25/25/3
    |-P^12%[0.00]<2>{AD 250}/1/25/2
    |-P^13*%[0.70]<2>{AD 300}/32/25/4
    |-P^17%[1.00]<2>{AD 350}/0/25/1
    |-P^79%[1.00]<2>{AD 650}/0/25/1
    |-P^89%[0.80]<2>{AD 350}/1/25/2
    --B^2%[0.96]<2>{AD 600}/3/25/3
    |-H015^c%[0.95]<2>{AD 600}/2/25/3
    -0122%[1.00]<2>{AD 850}/0/25/1
    |-0227%[1.00]<2>{AD 450}/0/25/1
    a
```

```
a
|-0252%[1.00]<2> {AD 450}/0/25/1
|-0285%[0.86]<2> {AD 550}/8/25/4
|-bo^a%[0.89]<2>{AD 250}/25/25/5
--Ath%[0.67]<2>{AD 373}/1/25/2
--Cl^lat%[0.00]<2> {AD 215}/1/25/2
-Fulg%[0.00]<2>{AD 527}/1/25/2
--Hier^a%[0.50]<2> {AD 420}/1/25/2
--Hier^b%[0.40]<2>{AD 420}/3/25/2
|-Hes%[1.00]<2>{AD 451}/0/25/1
-Hil%[0.00]<2> {AD 367}/1/25/2
-Marc%[0.00]<2>{AD 430}/1/25/2
-Ex-153[0.91]<2>{AD 100}/29/25/4
    |-Ex-140[0.99]<3>{AD 1300}/3/29/3
    | |-1881^c[1.00]<4>{AD 1400}/1/3/2
    | |-1881*[1.00]<4>{AD 1350}/0/3/1
    |-Ex-147[0.93]<3>{AD 150}/24/29/5
        |-P^46^c[0.71]<4>{AD 200}/90/24/5
        |-Ex-146[0.96]<4> {AD 850}/12/24/6
            |-1739*[0.99]<5> {AD 900}/3/12/3
            -1739^c[0.99]<5>{AD 950}/4/12/2
            |-0243*%[0.95]<5>{AD 950}/5/12/4
            |-0243^c%[0.95]<5>{AD 1000}/5/12/4
|-Ex-155[0.87]<2>{AD 247}/43/25/5
    |-630%[0.93]<3>{AD 1300}/13/43/6
    --sy^p%[0.84]<3>{AD 425}/38/43/7
    |-Eus^b%[0.50]<3>{AD 339}/6/43/2
    |-Ex-154[0.98]<3>{AD 297}/6/43/5
        |-Ex-141[0.94]<4>{AD 1300}/18/6/8
    | |-629*[1.00]<5>{AD 1350}/1/18/2
        |-629^c[0.99]<5>{AD 1350}/2/18/3
        |-Ex-143[0.87]<4>{AD 347}/39/6/10
        -044^c[1.00]<5> {AD 1050}/1/39/2
        |-044*[0.99]<5>{AD 1000}/2/39/2
        |-Ambr%[0.33]<5>{AD 397}/4/39/2
        --Cyr^a%[1.00]<5>{AD 444}/0/39/1
    |-Ex-149[0.98]<3> {AD 400}/6/43/3
        |-326[0.92]<4> {AD 950}/27/6/9
        |-D06^c%[0.89]<4> {AD 1150}/26/6/8
        |-D06^1%[0.88]<4>{AD 600}/30/6/9
        |-Ex-148[0.96]<4> { AD 450}/13/6/8
            |-1^249[0.98]<5>{AD 850}/8/13/5
            a
```

```
a
|-D06^2[0.90]<5>{AD 850}/31/13/11
-075%[1.00]<5>{AD 500}/1/13/1
|-TR[0.94]<5>{AD 1892}/18/13/8
|-HF[1.00]<5>{AD 1982}/0/13/1
|-RP[1.00]<5>{AD 2005}/0/13/1
|-sy^h%[0.91]<5>{AD 616}/21/13/8
|-Ex-144[1.00]<5> {AD 750}/0/13/1
    |-1912[0.99]<6> {AD 950}/2/0/2
    |-Ex-137[1.00]<6>{AD 800}/0/0/1
        |-13[1.00]<7> {AD 1250}/0/0/1
        |-0150[0.99]<7> {AD 850}/4/0/3
        |-6[0.90]<7> {AD 1250}/33/0/10
        |-69[0.99]<7> {AD 1450}/2/0/1
        |-257[1.00]<7> {AD 1350}/1/0/2
        |-323*[0.98]<7> {AD 1150}/7/0/5
        |-346[1.00]<7> {AD 1150}/0/0/1
        |-424*[1.00]<7>{AD 1100}/0/0/1
        |-424^c[1.00]<7> {AD 1100}/1/0/1
        |-440[1.00]<7> {AD 1150}/1/0/1
        |-460[1.00]<7> {AD 1250}/1/0/1
        |-462[1.00]<7> {AD 1100}/1/0/2
        |-467[1.00]<7> {AD 1450}/1/0/2
        |-543[1.00]<7> {AD 1150}/0/0/1
        |-614*[0.98]<7>{AD 1250}/8/0/5
        -788[1.00]<7> {AD 1050}/0/0/1
        |-826[1.00]<7> { AD 1150}/0/0/1
        |-828[1.00]<7> {AD 1150}/0/0/1
        |-945[0.98]<7> {AD 1050}/6/0/4
        |-983[1.00]<7> {AD 1150}/0/0/1
        |-1518[1.00]<7> {AD 1400}/1/0/2
        |-1908[0.99]<7> {AD 1050}/2/0/2
        |-2492[1.00]<7> {AD 1350}/1/0/2
        |-pm^a[1.00]<7>{AD 850}/0/0/1
        l-pm^b[0.98]<7>{AD 850}/5/0/4
        |-1^846[0.99]<7> {AD 850}/3/0/3
```


## Appendix D <br> List of Autographic Readings

## The Book of Hebrews

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.

Appendix D：
Autographic Readings for Hebrews

| Var Unit | Reference | Reading | Prob． |
| :---: | :---: | :---: | :---: |
| 1.1 | 1：1，1．1 | ${ }^{\top}$ оиıг | 1 |
| 2.1 | 1：2，1．1 |  | 1 |
| 3.1 | 1：2，2．1 | ${ }^{\circ} \mathrm{K} \alpha \downarrow$ | 1 |
| 4.1 | 1：2，3．1 |  | 0.67 |
| 5.1 | 1：3，1．1 |  | 1 |
| 6.1 | 1：3，2．1 | ${ }^{\circ} \alpha$ ủtou | 1 |
| 7.1 | 1：3，3．1 | ${ }^{\top}$ oult | 0.67 |
| 8.1 | 1：3，4．1 |  | 0.67 |
| 9.1 | 1：4，1．1 | ${ }^{\circ} \tau \omega \nu$ | 1 |
| 10.1 | 1：7，1．1 | ${ }^{\top}$ оцıг | 1 |
| 11.1 | 1：7，2．1 |  | 1 |
| 12.1 | 1：8，1．1 | ${ }^{\square}$ тov $\alpha$ i $\omega$ 人o¢ | 1 |
| 13.1 | 1：8，2．1 | ${ }^{\circ} \mathrm{K} \alpha \downarrow$ | 0.67 |
| 14.1 | 1：8，3．1 |  | 0.5 |
| 15.1 | 1：8，4．1 | 「бou | 1 |
| 16.1 | 1：9，1．1 |  | 0.67 |
| 17.1 | 1：11，1．1 | ${ }^{\text {＇} \delta<\alpha \mu \epsilon \nu \in \iota \zeta}$ | 0.67 |
| 18.1 | 1：12，1．1 |  | 1 |
| 19.2 | 1：12，2．2 | ${ }^{\square}$ онıг | 1 |
| 20.1 | 1：14，1．1 | ${ }^{\text {「бьккоуь }}$ ¢ | 1 |
| 21.1 | 2：1，1．1 |  р $\alpha \rho v \omega \mu \in \nu$ | 1 |
| 22.1 | 2：2，1．1 | ${ }^{\text {「 }}$ ¢ $\gamma \gamma \in \lambda \omega \nu$ | 1 |
| 23.1 | 2：4，1．1 |  | 1 |
| 24.1 | 2：4，2．1 | ${ }^{\circ} \tau \in$ | 0.67 |
| 25.1 | 2：4，3．1 | ${ }^{\text {F }}$ ¢ ${ }^{\text {ctou }}$ | 1 |
| 26.1 | 2：6，1．1 | ${ }^{\text {「 } \tau \iota}$ | 1 |
| 27.2 | 2：7，1．2 |  | 1 |
| 28.2 | 2：8，1．2 | 21 | 1 |
| 29.1 | 2：8，2．1 | ${ }^{\circ} \alpha \hat{\sim} \tau \omega$ | 1 |
| 30.1 | 2：9，1．1 | ＇$\chi \alpha$ рıть $\theta \in$ ои | 1 |
| 31.1 | 2：11，1．1 | ${ }^{\text {「 }}$ ¢ $\lambda \lambda \epsilon \iota \nu$ | 1 |
| 32.1 | 2：14，1．1 | ${ }^{\top}$ онı $\tau$ | 1 |
| 33.1 | 2：17，1．1 | ${ }^{\text {＇} \tau \alpha \varsigma}$ ¢ $\mu \alpha \rho \tau \tau \omega \varsigma$ | 1 |
| 34.1 | 3：2，1．1 | ${ }^{\circ}{ }_{0} \lambda \omega$ | 1 |
| 35.2 | 3：3，1．2 | 21 | 1 |
| 36.1 | 3：4，1．1 | ${ }^{\top}$ oulv | 1 |
| 37.1 | 3：6，1．1 | 「ou | 0.67 |
| 38.2 | 3：6，2．2 | ＊$\epsilon \alpha \nu$ | 1 |
| 39.2 | 3：6，3．2 | ＊$\mu \in \chi$ ¢ ${ }^{\text {c }} \tau \in \lambda$ Jous $\beta \in \beta \alpha \iota \alpha \nu$ | 1 |
| 40.2 | 3：9，1．2 | $\mu \mathrm{E}$ | 0.67 |


| 41.1 | 3：9，2．1 | ＇$¢ \nu$ ठокц $\mu \alpha \sigma$ ¢ | 1 |
| :---: | :---: | :---: | :---: |
| 42.1 | 3：10，1．1 | 「тんuヶๆ | 1 |
| 43.1 | 3：10，2．1 |  | 1 |
| 44.1 | 3：13，1．1 | ${ }^{\text {¢ }}$ ¢ $\alpha \rho \alpha \kappa \alpha \lambda \epsilon \tau \tau \epsilon$ | 1 |
| 45.1 | 3：13，2．1 | ${ }^{\top} \mathrm{K} \alpha \lambda \in \epsilon \tau \alpha \downarrow$ | 1 |
| 46.1 | 3：13，3．1 |  | 1 |
| 47.1 | 3：14，1．1 | 「טтобт $\alpha \sigma \epsilon \omega ¢$ | 1 |
| 48.1 | 3：17，1．1 | ${ }^{\top}$ oult | 1 |
| 49.1 | 3：17，2．1 | 「 $\alpha \mu \alpha \rho \tau \eta \sigma \alpha \sigma \iota \nu$ | 1 |
| 50.1 | 3：18，1．1 |  | 0.67 |
| 51.1 | 4：1，1．1 |  | 1 |
| 52.1 | 4：2，1．1 | Гбоүкєкєробиєขоия | 1 |
| 53.1 | 4：2，2．1 | ＇tous ג̇коuбабь้ | 0.67 |
| 54.1 | 4：3，1．1 |  | 1 |
| 55.1 | 4：3，2．1 | ${ }^{\text {「 } \gamma \alpha \rho}$ | 1 |
| 56.1 | 4：3，3．1 | ${ }^{\circ} \tau \eta \nu$ | 1 |
| 57.1 | 4：3，4．1 | ${ }^{\circ} \mathrm{\epsilon} \mathrm{i}$ | 1 |
| 58.1 | 4：4，1．1 | ${ }^{\circ} \gamma \alpha \rho$ | 1 |
| 59.1 | 4：5，1．1 | ${ }^{\text {rei }}$ | 1 |
| 60.1 | 4：6，1．1 |  | 0.67 |
| 61.1 | 4：7，1．1 |  | 1 |
| 62.1 | 4：8，1．1 | ${ }^{\text {「 }}$ 人 | 1 |
| 63.1 | 4：11，1．1 |  | 0.67 |
| 64.1 | 4：12，1．1 | 「＇̇vep ${ }^{\text {¢ }}$ | 1 |
| 65.1 | 4：12，2．1 |  | 1 |
| 66.1 | 4：16，1．1 |  | 1 |
| 67.1 | 5：1，1．1 | ${ }^{\circ} \tau \epsilon$ | 1 |
| 68.1 | 5：3，1．1 |  | 0.67 |
| 69.2 | 5：3，2．2 | ${ }^{\text {a }}$ ¢ ${ }^{\text {c }}$－ | 1 |
| 70.1 | 5：3，3．1 | ${ }^{\text {F }}$ ¢ ${ }^{\prime \prime}$ | 1 |
| 71.1 | 5：4，1．1 |  | 1 |
| 72.1 | 5：4，2．1 | ${ }_{\text {「к } \alpha \theta \omega \sigma \pi \epsilon \rho ~}$ | 0.5 |
| 73.1 | 5：6，1．1 | ${ }^{\top}$ о ¢ ${ }^{\text {¢ }}$ | 1 |
| 74.1 | 5：11，1．1 | ${ }^{\circ} \mathrm{O}$ | 1 |
| 75.1 | 5：12，1．1 |  | 0.67 |
| 76.2 | 5：12，2．2 | ，$\tau$ ivo | 0.67 |
| 77.1 | 5：12，3．1 | ${ }^{\circ} \mathrm{K} \alpha \mathrm{L}$ | 0.67 |
| 78.1 | 5：13，1．1 | ${ }^{\top}$ oult | 1 |
| 79.1 | 6：2，1．1 | 「ס＜$\delta \alpha \chi \eta$ ¢ | 1 |
| 80.1 | 6：2，2．1 | ${ }^{\circ} \tau \epsilon$ | 1 |
| 81.1 | 6：3，1．1 | ${ }^{\text {「тоıпбоиє }}$ ¢ | 1 |


| 82.1 | 6：9，1．1 | 「 $\alpha \gamma \alpha \pi \eta$ ¢оı | 1 |
| :---: | :---: | :---: | :---: |
| 83.1 | 6：10，1．1 | ${ }^{\top}$ o $\quad$ ¢ $\tau$ | 1 |
| 84.1 | 6：10，2．1 | 「ךऽ | 1 |
| 85.1 | 6：11，1．1 | ${ }^{\prime} \in \lambda \lambda \pi\llcorner\delta o s$ | 1 |
| 86.1 | 6：14，1．1 | ${ }^{\prime} \in i \quad \mu \eta \nu$ | 0.33 |
| 87.1 | 6：16，1．1 | ${ }^{\top}$ out | 1 |
| 88.1 | 6：17，1．1 | 「тєрьбботєроข | 1 |
| 89.1 | 6：17，2．1 |  | 1 |
| 90.1 | 6：17，3．1 |  | 1 |
| 91.1 | 6：17，4．1 | ${ }^{\top}$ oult | 1 |
| 92.1 | 6：18，1．1 | ${ }^{\circ}$ ¢оข | 1 |
| 93.1 | 6：19，1．1 |  | 1 |
| 94.1 | 7：1，1．1 | ${ }^{\text {「o }}$ | 0.5 |
| 95.1 | 7：1，2．1 | ${ }^{\top}$ o $0 \mu \tau \tau$ | 1 |
| 96.1 | 7：2，1．1 | ${ }^{\text {「 }} \pi \alpha \nu \tau \omega \nu$ | 1 |
| 97.1 | 7：4，1．1 | ${ }^{\circ} \mathrm{K} \alpha \iota$ | 1 |
| 98.2 | 7：6，1．2 | тov | 1 |
| 99.1 | 7：6，2．1 |  | 1 |
| 100.1 | 7：9，1．1 | ${ }^{\text {「Meut }}$ | 1 |
| 101.2 | 7：10，1．2 | o | 1 |
| 102.1 | 7：11，1．1 | ${ }^{\circ} \eta \nu$ | 1 |
| 103.1 | 7：11，2．1 | 「 $\alpha$ ט̇tทऽ | 0.5 |
| 104.1 | 7：11，3．1 | ${ }^{\top} \nu \in \nu$ ¢ $\mu 0 \theta \in \tau \eta \tau \alpha \iota$ | 1 |
| 105.1 | 7：13，1．1 | ${ }^{\ulcorner } \mu \in \tau \in \sigma \chi \eta \kappa \in \nu$ | 1 |
| 106.1 | 7：13，2．1 |  | 1 |
| 107.1 | 7：14，1．1 | ${ }^{\top}$ out $\tau$ | 1 |
| 108.1 | 7：14，2．1 |  | 1 |
| 109.1 | 7：16，1．1 | 「боркьขך¢ | 1 |
| 110.1 | 7：17，1．1 | 「 $\mu \alpha \rho \tau \cup \rho \in \iota \tau \alpha \iota$ | 1 |
| 111.1 | 7：17，2．1 | ${ }^{\top}$ out $\tau$ | 1 |
| 112.1 | 7：18，1．1 | ${ }^{\circ} \mu \in \nu$ | 1 |
| 113.1 | 7：21，1．1 | ${ }^{\top}$ o $\mu \tau \tau$ | 1 |
| 114.1 | 7：21，2．1 | ${ }^{\top}$ \％ $\mathrm{o} \mu \tau \tau$ | 0.67 |
| 115.1 | 7：22，1．1 | 「тобоито | 0.5 |
| 116.2 | 7：22，2．2 | ${ }^{\circ}$ о $\mu \tau \tau$ | 1 |
| 117.1 | 7：24，1．1 | ${ }^{\text {「 }\llcorner\in \rho \omega \sigma \nu \nu \eta \nu}$ | 1 |
| 118.2 | 7：26，1．2 | ${ }^{\circ}$ о $\mu \tau \tau$ | 1 |
| 119.1 | 7：27，1．1 | ＇ol $\dot{\alpha} \rho \chi\llcorner ⿺ \rho ¢ \in$ ¢ | 1 |
| 120.1 | 7：27，2．1 | ${ }^{\text {「 } \theta \text { טбl } \alpha \varsigma}$ | 1 |
| 121.1 | 7：27，3．1 | ${ }^{\text {「 }}$ ¢ $\nu \in \nu \in \gamma \kappa \alpha$ ¢ | 0.5 |
| 122.1 | 7：28，1．1 | 「 $\alpha \rho \chi$ L¢ $¢ \in L \varsigma$ | 1 |


| 123.1 | 8：1，1．1 | ${ }^{\prime} \mathrm{E} \pi\llcorner$ | 1 |
| :---: | :---: | :---: | :---: |
| 124.1 | 8：1，2．1 |  | 1 |
| 125.2 | 8：2，1．2 | к $\alpha \downarrow$ | 1 |
| 126.1 | 8：4，1．1 | 「ouv | 1 |
| 127.1 | 8：4，2．1 | ${ }^{\top}$ о ${ }^{\text {¢ }}$ ¢ $\tau$ | 1 |
| 128.1 | 8：4，3．1 |  | 1 |
| 129.1 | 8：6，1．1 | 「ขuvı | 1 |
| 130.3 | 8：6，2．3 | $\tau \in \tau \cup \chi \eta \kappa \in \nu$ | 1 |
| 131.1 | 8：6，3．1 | ${ }^{\circ} \mathrm{K} \alpha \downarrow$ |  |
| 132.1 | 8：7，1．1 |  | 1 |
| 133.1 | 8：8，1．1 | 「 $\alpha$ ı̇tous |  |
| 134.1 | 8：9，1．1 | ${ }^{\text {¢ }}$ ¢ ${ }^{\text {¢ }}$ ¢ $\alpha$ | 1 |
| 135.1 | 8：10，1．1 | ${ }^{\top}$ oult | 1 |
| 136.1 | 8：10，2．1 | ${ }^{\text {「 } \alpha \alpha \rho \delta \iota \alpha \varsigma ~}$ | 1 |
| 137.1 | 8：10，3．1 |  | 1 |
| 138.1 | 8：11，1．1 |  | 0.67 |
| 139.1 | 8：11，2．1 | ${ }^{\circ}$ av̇tou | 1 |
| 140.1 | 8：11，3．1 | ${ }^{\top}$ oult | 1 |
| 141.1 | 8：12，1．1 |  | 1 |
| 142.1 | 9：1，1．1 | ${ }^{\circ} \mathrm{K} \alpha \mathrm{L}$ | 0.67 |
| 143.1 | 9：1，2．1 | ${ }^{\top}$ oult | 1 |
| 144.1 | 9：2，1．1 |  | 1 |
| 145.1 | 9：2，2．1 |  | 0.67 |
| 146.1 | 9：3，1．1 | ${ }^{\text {＇A } \gamma \iota \alpha} \mathrm{A} \gamma \iota \omega \nu$ | 1 |
| 147.1 | 9：4，1．1 |  | 1 |
| 148.1 | 9：4，2．1 | ${ }^{\circ} \eta$ | 1 |
| 149.1 | 9：9，1．1 | ${ }^{\top}$ oult | 1 |
| 150.1 | 9：9，2．1 | 「 $\eta \nu$ | 1 |
| 151.1 | 9：10，1．1 | ${ }^{\text {「 } \delta \iota \kappa \alpha \iota \omega \mu \alpha \tau \alpha}$ | 1 |
| 152.2 | 9：11，1．2 | $\mu \in \lambda \lambda$ ovt $\omega \nu$ | 1 |
| 153.1 | 9：12，1．1 | ${ }^{\top}$ oult | 1 |
| 154.1 | 9：14，1．1 |  | 1 |
| 155.2 | 9：14，2．2 | v $\mu \omega \nu$ | 1 |
| 156.1 | 9：14，3．1 | ${ }^{\top}$ out ${ }^{\text {d }}$ | 1 |
| 157.1 | 9：17，1．1 | 「иптотє | 1 |
| 158.1 | 9：19，1．1 | ${ }^{\top}$ онıг | 1 |
| 159.1 | 9：19，2．1 | ${ }^{\circ}$ тov | 0.5 |
| 160.1 | 9：19，3．1 | ＇$\mu$ обх $\omega \nu$ к $\alpha \iota \tau \omega \nu$ тр $\alpha \gamma \omega \nu$ | 1 |
| 161.1 | 9：25，1．1 | ${ }^{\top}$ oult | 1 |
| 162.1 | 9：26，1．1 | ${ }^{\text {「 } \pi \alpha \theta \in \iota \nu}$ | 1 |
| 163.1 | 9：26，2．1 | ＇$\tau \eta \varsigma \alpha \mu \alpha \rho \tau \tau \alpha \varsigma$ | 0.5 |


| 164.1 | 9：28，1．1 | ${ }^{\top}$ о $\mu \tau \tau$ | 1 |
| :---: | :---: | :---: | :---: |
| 165.1 | 10：1，1．1 | ＇oủk $\alpha$ ט̇兀ๆข | 1 |
| 166.1 | 10：1，2．1 | ${ }^{\top}$ о $\mu \tau \tau$ | 1 |
| 167.1 | 10：1，3．1 |  | 1 |
| 168.1 | 10：1，4．1 |  | 0.67 |
| 169.1 | 10：2，1．1 | ＇oủk $\alpha \nu$ | 1 |
| 170.1 | 10：4，1．1 | ${ }^{\text {}} \tau \alpha \nu \rho \omega \nu \kappa \alpha \iota ~ \tau \rho \alpha \gamma \omega \nu^{\top}$ | 1 |
| 171.1 | 10：4，2．1 | 「 $\dot{\alpha} \phi \alpha \iota \rho \in\llcorner\nu$ | 1 |
| 172.1 | 10：6，1．1 | 「одок ${ }^{\text {¢ }}$ ¢ $\omega \mu \mu \tau \alpha$ | 1 |
| 173.1 | 10：7，1．1 | ${ }^{\top}$ о $\mu \tau \tau$ | 1 |
| 174.1 | 10：8，1．1 |  | 0.67 |
| 175.1 | 10：8，2．1 | ${ }^{\top}$ о $\quad$ ¢ $\tau$ | 1 |
| 176.1 | 10：9，1．1 | ${ }^{\top}$ о $\mu \tau \tau$ | 0.67 |
| 177.1 | 10：10，1．1 | ${ }^{\top}$ о $\quad$ ¢ $\tau$ | 1 |
| 178.1 | 10：10，2．1 |  | 1 |
| 179.1 | 10：11，1．1 |  | 1 |
| 180.1 | 10：11，2．1 | ${ }^{\text {「 }}$ ¢ $\mu \alpha \rho \tau \iota \alpha \varsigma^{\prime}$ | 1 |
| 181.1 | 10：12，1．1 | 「outos | 1 |
| 182.1 | 10：12，2．1 | ${ }^{\prime} \in \nu \delta \in \xi\llcorner ⿺ 𠃊$ | 1 |
| 183.1 | 10：13，1．1 | ${ }^{\circ} \alpha$ ט̇тov | 1 |
| 184.1 | 10：14，1．1 |  | 1 |
| 185.1 | 10：15，1．1 |  | 1 |
| 186.1 | 10：16，1．1 | ${ }^{\top}$ о $\mu \tau$ | 0.67 |
| 187.1 | 10：16，2．1 | ${ }^{\text {＇}} \boldsymbol{\square} \nu \delta \iota \alpha \nu$ 人 $\alpha \nu$ | 0.67 |
| 188.1 | 10：17，1．1 | ${ }^{\top}$ о $\mu \tau \tau$ | 1 |
| 189.1 | 10：17，2．1 | ${ }^{\circ} \alpha$ ง่七 $\omega \nu$ | 0.67 |
| 190.1 | 10：17，3．1 | $\ulcorner\mu \nu \eta \sigma \theta \eta \sigma о \mu \alpha \iota$ | 1 |
| 191.1 | 10：18，1．1 | ${ }^{\circ}$ тоut $\omega \nu$ | 1 |
| 192.1 | 10：22，1．1 | ${ }^{\text {「 }} \boldsymbol{\sim}$ | 1 |
| 193.1 | 10：23，1．1 | ${ }^{\top}$ о $\mu \tau \tau$ | 0.67 |
| 194.1 | 10：24，1．1 |  | 1 |
| 195.1 | 10：25，1．1 | ${ }^{\prime} \dagger \gamma \kappa \alpha \tau \alpha \lambda \in \iota \tau 0 \nu \tau \in \varsigma$ | 1 |
| 196.1 | 10：25，2．1 | ${ }^{\top}$ о $\mu \tau \tau$ | 1 |
| 197.1 | 10：26，1．1 | ${ }^{\circ} \gamma \alpha \rho$ | 1 |
| 198.1 | 10：26，2．1 | 「 $\alpha \mu \alpha \rho \tau \iota \omega \nu$ | 1 |
| 199.1 | 10：26，3．1 |  | 1 |
| 200.1 | 10：28，1．1 | ${ }^{\top}$ о $\mu \tau \tau$ | 1 |
| 201.1 | 10：29，1．1 | 「 $\dot{\alpha} \xi \iota \omega \theta \eta \sigma \epsilon \tau \alpha \iota$ | 1 |
| 202.1 | 10：29，2．1 | ${ }^{\top} \mathrm{o} \mu \tau \tau$ | 1 |
| 203.1 | 10：29，3．1 | ${ }^{\square} \epsilon \nu \omega \eta \gamma \iota \alpha \sigma \theta \eta$ | 1 |
| 204.1 | 10：30，1．1 | ${ }^{\top}$ o $\mu \tau \tau$ | 1 |


| 205.1 | 10：30，2．1 | ${ }^{\top}$ \％ $0 \mu \tau \tau$ | 0.67 |
| :---: | :---: | :---: | :---: |
| 206.1 | 10：30，3．1 |  | 1 |
| 207.1 | 10：32，1．1 | ${ }^{\ulcorner }$¢ $\mu \in \rho \alpha \varsigma$ | 1 |
| 208.1 | 10：33，1．1 | ${ }^{\ulcorner } \theta \in \alpha \tau \rho\left\llcorner\zeta\right.$ оиє ${ }^{\text {¢ }}$ | 1 |
| 209.1 | 10：34，1．1 | ${ }^{\text {「 } \delta \in \sigma \mu \iota o ı \varsigma ~}$ | 0.67 |
| 210.1 | 10：34，2．1 | 「EQutous | 1 |
| 211.1 | 10：34，3．1 | ${ }^{\top}$ о $\quad$ ¢ $\tau$ | 0.67 |
| 212.1 | 10：37，1．1 | ${ }^{\circ} \gamma \alpha \rho$ | 1 |
| 213.1 | 10：38，1．1 | ＇$\mu$ Ou＇̇к $\pi\llcorner\sigma \tau \epsilon \omega \varsigma$ | 0.67 |
| 214.1 | 10：38，2．1 |  | 1 |
| 215.1 | 11：1，1．1 | ＇บாобт $\alpha \sigma \iota \varsigma \pi \rho \alpha \gamma \mu \alpha \tau \omega \nu$ | 1 |
| 216.1 | 11：2，1．1 | ${ }^{\text {「 } \tau \alpha \cup \tau \eta ~}$ | 1 |
| 217.1 | 11：3，1．1 | ＇то $\beta \lambda \epsilon \pi$ тон $\mathcal{\nu}$ о $\nu$ | 0.67 |
| 218.1 | 11：4，1．1 | ${ }^{\square} \tau \omega$ Өє $\omega$ | 1 |
| 219.1 | 11：4，2．1 | ${ }^{\text {＇} \alpha \text { ט̉tou } \text { тou } \theta \in \text { ou }}$ | 0.67 |
| 220.1 | 11：4，3．1 | ${ }^{\text {F }} \lambda \alpha \lambda \lambda \in \mathrm{L}$ | 1 |
| 221.1 | 11：5，1．1 | ${ }^{\top}$ оиıт | 1 |
| 222.1 | 11：6，1．1 | ${ }^{\circ} \tau \omega$ | 1 |
| 223.1 | 11：6，2．1 |  | 1 |
| 224.1 | 11：8，1．1 | ${ }^{\top}$ о $\mu \tau \tau$ | 1 |
| 225.1 | 11：8，2．1 | ${ }^{\top}$ \％out $\tau$ | 0.5 |
| 226.2 | 11：11，1．2 | ＊ 12 | 0.67 |
| 227.1 | 11：11，2．1 | ${ }^{\top}$ out $\tau$ | 1 |
| 228.1 | 11：11，3．1 | ${ }^{\top}$ \％ $\mathrm{o} \mu \tau \tau$ | 1 |
| 229.1 | 11：12，1．1 | ${ }^{\text {「＇}} \boldsymbol{\sim} \boldsymbol{\gamma} \in \nu \nu \eta \theta \eta \sigma \alpha \nu$ | 0.67 |
| 230.1 | 11：12，2．1 | ${ }^{\square} \eta \pi \alpha \rho \alpha$ то $\chi \in\llcorner\lambda$ оऽ | 1 |
| 231.1 | 11：13，1．1 |  | 0.5 |
| 232.1 | 11：13，2．1 | ${ }^{\top}$ out $\tau$ | 1 |
| 233.1 | 11：14，1．1 |  | 1 |
| 234.1 | 11：15，1．1 |  | 1 |
| 235.1 | 11：15，2．1 |  | 1 |
| 236.1 | 11：17，1．1 |  | 1 |
| 237.1 | 11：19，1．1 | ${ }^{\text {「 }}$ ¢ $\gamma \in ⿺ 𠃊 \rho \in\llcorner\nu$ | 1 |
| 238.1 | 11：19，2．1 |  | 1 |
| 239.1 | 11：20，1．1 | ${ }^{\circ} \mathrm{K} \alpha \iota$ | 1 |
| 240.1 | 11：23，1．1 | ${ }^{\top}$ о $\quad$ ¢ $\tau$ | 1 |
| 241.1 | 11：29，1．1 | ${ }^{\circ} \gamma \eta \mathrm{s}$ | 1 |
| 242.1 | 11：29，2．1 | 「К $\kappa \tau \epsilon \pi 0 \theta \eta \sigma \alpha \nu$ | 1 |
| 243.1 | 11：31，1．1 | ${ }^{\top}$ out $\tau$ | 1 |
| 244.1 | 11：31，2．1 | 「 $¢ \pi \epsilon\llcorner\theta \eta \sigma \alpha \sigma \iota \nu$ | 1 |
| 245.2 | 11：32，1．2 | 21 | 0.67 |


| 246.1 | 11：32，2．1 | 「 $\mathrm{T} \alpha \mu \psi \omega \nu$ | 1 |
| :---: | :---: | :---: | :---: |
| 247.1 | 11：33，1．1 |  | 1 |
| 248.2 | 11：34，1．2 | $\epsilon \nu \in \delta \nu \nu-$ | 1 |
| 249.1 | 11：35，1．1 | $\ulcorner\gamma \cup \nu \alpha L K \in \zeta$ | 0.67 |
| 250.3 | 11：37，1．3 | $\epsilon \pi \rho\llcorner\sigma-, \epsilon \pi \epsilon\llcorner\rho-\Theta 13$ ¢ $\downarrow \delta$ | 0.67 |
| 251.1 | 11：38，1．1 | 「它ாし | 1 |
| 252.1 | 11：39，1．1 | ${ }^{\circ}$ Outol | 1 |
| 253.1 | 11：39，2．1 |  | 1 |
| 254.1 | 11：40，1．1 | ${ }^{\text {「 }}$ ¢ $\rho \circ \beta \lambda \in \psi \psi \mu \mu \nu 0 \cup$ | 1 |
| 255.1 | 12：1，1．1 | 「тобоитоу | 1 |
| 256.1 | 12：1，2．1 |  | 1 |
| 257.1 | 12：2，1．1 | ${ }^{\top}$ о $\mu$ ¢ $\tau$ | 1 |
| 258.1 | 12：2，2．1 | ${ }^{\text {「K }}$ ¢К $\alpha \theta \iota \kappa \in \nu$ | 1 |
| 259.1 | 12：3，1．1 | ${ }^{\circ} \tau 0 \nu$ | 1 |
| 260.3 | 12：3，2．3 | $\alpha$ utous | 0.67 |
| 261.1 | 12：3，3．1 | ${ }^{\circ} \mathrm{\nu} \mu \omega \nu$ | 1 |
| 262.1 | 12：3，4．1 |  | 1 |
| 263.1 | 12：4，1．1 | ${ }^{\top}$ o ${ }^{\text {r }}$ ，$\tau$ | 1 |
| 264.1 | 12：4，2．1 | 「 $\alpha \nu \tau \alpha \gamma \omega \nu \iota \zeta$ о $\mu \in \nu$ оь | 1 |
| 265.1 | 12：5，1．1 | ${ }^{\circ} \mathrm{\mu ov}$ | 1 |
| 266.1 | 12：5，2．1 | 「 $\mu \eta \delta \epsilon$ | 1 |
| 267.1 | 12：7，1．1 | ${ }^{\text {reics }}$ | 1 |
| 268.2 | 12：7，2．2 | $\epsilon \sigma \tau \iota \nu$ | 1 |
| 269.2 | 12：9，1．2 | ${ }^{\circ}$ оцı七 | 1 |
| 270.1 | 12：9，2．1 | ${ }^{\text {「 }}$ ¢ $\nu \in \cup \mu \alpha \tau \omega \nu$ | 1 |
| 271.1 | 12：11，1．1 | 「סє | 1 |
| 272.2 | 12：13，1．2 | тоıך $\sigma \alpha \tau \epsilon$ | 1 |
| 273.1 | 12：15，1．1 | $\Gamma^{\prime} \in \nu 0 \chi \lambda \eta$ | 1 |
| 274.1 | 12：15，2．1 | ＇$\delta$ ı＇$\alpha$ ט̉tทs | 1 |
| 275.1 | 12：15，3．1 | ${ }^{\top}$ o $\quad$ ¢ $\tau$ | 0.5 |
| 276.1 | 12：16，1．1 | ${ }^{\text {＇} \tau \alpha}$ т $\quad$ ¢ $\omega \tau$ тоокь $\alpha$ | 1 |
| 277.2 | 12：16，2．2 | $\alpha v-$ | 1 |
| 278.1 | 12：18，1．1 |  | 0.67 |
| 279.1 | 12：18，2．1 |  | 0.5 |
| 280.1 | 12：19，1．1 | ${ }^{\circ} \mu \eta$ | 1 |
| 281.1 | 12：19，2．1 |  | 1 |
| 282.1 | 12：20，1．1 | ${ }^{\top}$ о $\mu \tau \tau$ | 1 |
| 283.1 | 12：21，1．1 |  | 1 |
| 284.1 | 12：22，1．1 | ${ }^{\circ} \mathrm{K} \alpha \iota$ | 1 |
| 285.1 | 12：22，2．1 |  | 1 |
| 286.1 | 12：23，1．1 |  | 1 |


| 287.1 | 12：23，2．1 |  | 1 |
| :---: | :---: | :---: | :---: |
| 288.1 | 12：23，3．1 | ＇$\delta<\kappa \alpha \omega \omega \nu$ t $\tau \tau \in \lambda \epsilon \epsilon \omega \mu \epsilon \nu \omega \nu$ | 1 |
| 289.1 | 12：24，1．1 | 「крєآто⿱ | 1 |
| 290.1 | 12：24，2．1 | ${ }^{\text {F }}$ ¢ ${ }^{\text {c }}$ | 1 |
| 291.1 | 12：25，1．1 | ${ }^{\text {「 }}$ ¢ $¢$ ¢ ${ }^{\text {¢ }}$ | 0.67 |
| 292.1 | 12：25，2．1 |  | 0.67 |
| 293.1 | 12：25，3．1 | ${ }^{\text {Foưp } \alpha \nu \omega \nu}$ | 1 |
| 294.1 | 12：26，1．1 |  | 1 |
| 295.1 | 12：27，1．1 | ${ }^{\text {＇} \tau \eta \nu} \tau \omega \nu \sigma \alpha \lambda \in$ טо $\mu \in \nu \omega \nu$ | 0.5 |
| 296.1 | 12：28，1．1 | ${ }^{\text {¢ }} \chi$ ¢ $\omega \mu \in \nu$ | 0.67 |
| 297.1 | 12：28，2．1 | ${ }^{\text {＇}}$＇$\alpha \tau \rho \epsilon \nu \omega \mu \epsilon \nu$ | 0.67 |
| 298.1 | 12：28，3．1 |  | 1 |
| 299.1 | 12：29，1．1 | ${ }^{\text {「K } \alpha \downarrow}$ | 1 |
| 300.1 | 13：4，1．1 | ${ }^{\text {「 } \gamma \alpha \rho}$ | 1 |
| 301.1 | 13：5，1．1 | 「¢¢коинєขоь | 1 |
| 302.2 | 13：5，2．2 |  | 1 |
| 303.1 | 13：6，1．1 | ${ }^{\circ} \mathrm{K} \alpha \mathrm{L}$ | 0.67 |
| 304.1 | 13：7，1．1 |  | 1 |
| 305.1 | 13：8，1．1 | ${ }^{\top}$ о $\quad$ ¢ $\tau$ | 1 |
| 306.1 | 13：9，1．1 |  | 1 |
| 307.2 | 13：9，2．2 | －тпб $\alpha \nu \tau \epsilon \varsigma$ | 1 |
| 308.1 | 13：10，1．1 |  | 1 |
| 309.1 | 13：12，1．1 | 「mudns | 1 |
| 310.1 | 13：15，1．1 | ＇$\Delta \mathrm{l}^{\prime}$ a ¢̉tou ouv | 1 |
| 311.1 | 13：16，1．1 | ${ }^{\top}$ out ${ }^{\text {c }}$ | 1 |
| 312.1 | 13：17，1．1 |  | 1 |
| 313.1 | 13：18，1．1 |  | 1 |
| 314.1 | 13：20，1．1 | ${ }^{\text {T }}$ out ${ }^{\text {a }}$ | 1 |
| 315.1 | 13：21，1．1 | ${ }^{\text {T }}$ out ${ }^{\text {T}}$ | 0.67 |
| 316.1 | 13：21，2．1 | ${ }^{\text {F }}$ out ${ }^{\text {\％}}$ | 0.33 |
| 317.1 | 13：21，3．1 | ${ }^{\text {「 }}$ ¢ $\mu \nu$ | 0.67 |
| 318.1 | 13：21，4．1 |  | 1 |
| 319.1 | 13：22，1．1 |  | 0.67 |
| 320.1 | 13：23，1．1 | ${ }^{\circ} \eta \mu \omega \nu$ | 1 |
| 321.1 | 13：24，1．1 | ${ }^{\circ} \pi \alpha \nu \tau \alpha \varsigma$ | 1 |
| 322.1 | 13：25，1．1 | ${ }^{\text {г }}$ ¢ $\mu \omega \nu$ | 1 |
| 323.2 | 13：25，2．2 | $\alpha \mu \eta \nu$ | 1 |

## Appendix E

List of the Places the Lachmann-10 Text
Differs from the NA-27 Text
for the Book of Hebrews

| 1：12，2．2 | Omit NA－27＝＞ |  |  |  | ［1．00］ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2：7，1．2 | At NA－27＝＞ | ${ }^{\top}$ out $\tau$ | $\begin{gathered} \text { insert } \\ => \end{gathered}$ | $\kappa \alpha \iota ~ \kappa \alpha \tau \epsilon \sigma \tau \eta \sigma \alpha \varsigma \alpha \cup \tau 0 \nu \in \pi \iota \tau \alpha \in \rho \gamma \alpha$ $\tau \omega \nu \chi \in \iota \rho \omega \nu$ бou | ［1．00］ |
| 2：8，1．2 | $\begin{gathered} \text { Replace NA-27 } \\ => \end{gathered}$ | ${ }^{\prime} \tau \omega \gamma \alpha \rho$ | with＝＞ | 21 | ［1．00］ |
| 3：3，1．2 | $\begin{gathered} \text { Transpose NA- } \\ 27=> \\ \hline \end{gathered}$ |  | to＝＞ | 21 | ［1．00］ |
| 3：6，2．2 | $\begin{gathered} \text { Replace NA-27 } \\ => \end{gathered}$ | ${ }^{\prime} \in \alpha \nu \pi \pi \rho$ | with＝＞ | ${ }^{*} \epsilon \alpha \nu$ | ［1．00］ |
| 3：6，3．2 | At NA－27＝＞ | ${ }^{\top}$ out $\tau$ | $\begin{gathered} \text { insert } \\ => \end{gathered}$ |  | ［1．00］ |
| 3：9，1．2 | At NA－27＝＞ | ${ }^{\top}$ out $\tau$ | $\begin{gathered} \text { insert } \\ => \end{gathered}$ | $\mu \epsilon$ | ［0．67］ |
| 5：3，2．2 | $\begin{gathered} \text { Replace NA-27 } \\ => \end{gathered}$ | 「 $\alpha$ ט̇тou | with＝＞ | ＊$\epsilon \alpha \cup$ | ［1．00］ |
| 5：12，2．2 | $\begin{gathered} \text { Replace NA-27 } \\ => \end{gathered}$ | ${ }^{\text {「 }} \tau \iota \nu \alpha$ | with＝＞ | ，$\tau$ ívo | ［0．67］ |
| 7：6，1．2 | At NA－27＝＞ | ${ }^{\top}$ out $\tau$ | $\begin{gathered} \text { insert } \\ => \\ \hline \end{gathered}$ | тov | ［1．00］ |
| 7：10，1．2 | At NA－27＝＞ | ${ }^{\top}$ out $\tau$ | $\begin{gathered} \text { insert } \\ => \end{gathered}$ | o | ［1．00］ |
| 7：22，2．2 | Omit NA－27＝＞ | ${ }^{\circ} \mathrm{K} \alpha \iota$ |  |  | ［1．00］ |
| 7：26，1．2 | Omit NA－27＝＞ | ${ }^{\circ} \mathrm{K} \alpha \iota$ |  |  | ［1．00］ |
| 8：2，1．2 | At NA－27＝＞ | ${ }^{\top}$ out $\tau$ | $\begin{gathered} \text { insert } \\ => \end{gathered}$ | $\kappa \alpha \downarrow$ | ［1．00］ |
| 8：6，2．3 | $\begin{gathered} \text { Replace NA-27 } \\ => \end{gathered}$ | ${ }{ }_{\tau} \tau \tau \cup \chi \in \nu$ | with＝＞ | $\tau \in \tau \cup \chi \eta \kappa \in \nu$ | ［1．00］ |
| 9：11，1．2 | $\begin{gathered} \text { Replace NA-27 } \\ => \end{gathered}$ | $\ulcorner\gamma \in \nu \quad \mu \in \nu \omega \nu$ | with＝＞ | $\mu \in \lambda \lambda o \nu \tau \omega \nu$ | ［1．00］ |
| 9：14，2．2 | $\begin{gathered} \text { Replace NA-27 } \\ => \end{gathered}$ | ${ }^{\top} \eta \mu \omega \nu$ | with＝＞ | $\nu \mu \omega \nu$ | ［1．00］ |
| 11：11，1．2 | $\begin{gathered} \text { Replace NA-27 } \\ => \end{gathered}$ | ＇$\alpha$ ט̉тๆ T $\alpha \rho \rho \alpha$ $\sigma \tau \in\llcorner\rho \alpha$ | with＝＞ | $\cdots 12$ | ［0．67］ |
| 11：32，1．2 | $\begin{gathered} \text { Replace NA-27 } \\ => \end{gathered}$ | ${ }^{\prime} \mu \in \gamma \alpha \rho$ | with＝＞ | 21 | ［0．67］ |
| 11：34，1．2 | $\begin{gathered} \text { Replace NA-27 } \\ => \end{gathered}$ | 「＇̇ $\delta u \nu \alpha \mu \omega \theta \eta \sigma \alpha \nu$ | with＝＞ | $\epsilon \nu \in \delta u \nu-$ | ［1．00］ |
| 11：37，1．3 | $\begin{gathered} \text { Replace NA-27 } \\ => \end{gathered}$ | 「 $¢ \pi \pi \rho \iota \sigma \theta \eta \sigma \alpha \nu$ | with＝＞ | $\epsilon \pi \rho\llcorner\sigma-, \epsilon \pi \epsilon\llcorner\rho-\Theta 13$ ¢ | ［0．67］ |
| 12：3，2．3 | $\begin{gathered} \text { Replace NA-27 } \\ => \end{gathered}$ | ${ }^{\text {¢ }}$ ¢ Uutov | with＝＞ | autous | ［0．67］ |
| 12：7，2．2 | At NA－27＝＞ | ${ }^{\top}$ out $\tau$ | $\begin{gathered} \text { insert } \\ \text { => } \end{gathered}$ | $\epsilon \sigma \tau \iota \nu$ | ［1．00］ |
| 12：9，1．2 | Omit NA－27＝＞ | ${ }^{\circ} \delta \epsilon$ |  |  | ［1．00］ |
| 12：13，1．2 | $\begin{gathered} \text { Replace NA-27 } \\ => \end{gathered}$ | 「тolelte | with＝＞ | $\pi \sim \downarrow \eta \sigma \alpha \tau \epsilon$ | ［1．00］ |
| 12：16，2．2 | $\begin{gathered} \text { Replace NA-27 } \\ => \end{gathered}$ | ${ }^{\text {「eautou }}$ | with＝＞ | $\alpha \cup-$ | ［1．00］ |
| 13：5，2．2 | $\begin{gathered} \text { Replace NA-27 } \\ => \end{gathered}$ | ${ }^{\top} \boldsymbol{¢} \gamma \kappa \alpha \tau \alpha \lambda \iota \pi \omega$ | with＝＞ | －$\lambda \in \iota \pi \omega$ | ［1．00］ |


| 13:9,2.2 | Replace NA-27 => | ${ }^{\prime} \pi \epsilon \rho\llcorner\pi \alpha \chi \tau 0 \cup \nu \tau \in \zeta$ | with => | - $\tau \eta \sigma \alpha \nu \tau \epsilon \varsigma$ | [1.00] |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 13:25,2.2 | At NA-27 => | ${ }^{\top}$ о $\mu \tau \tau$ | insert $=>$ | $\alpha \mu \eta \nu$ | [1.00] |

## Appendix F

Places Where the Non-Autographic Variants Were Initiated
Only Once in the Textual History of Hebrews Arranged in Order by Reference

This appendix lists the place in the genealogical history of the text of the Book of Hebrews 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:

| 8.2 | $1: 3,4.2$ | Ex-156\# | $\eta \mu \omega \nu$ |
| :---: | :---: | :---: | :--- |

(1) 8.2 refers to the second variant at variation unit 8.
(2) $1: 3,4.2$ is the reference where this place of variation occurs: chapter 1 , verse 3 , the $4^{\text {th }}$ place of variation in this verse, the second variant there.
(3) This variant was initiated in exemplar Ex-156\#.
(4) The variant reads: $\eta \mu \omega \nu$ (our)
(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-156\#) unless otherwise altered in one of its subsequent branches.

The following line means:

| 10.2 | $1: 7,1.2$ | D06* | autou |
| :---: | :---: | :---: | :--- |

(1) 10.2 refers to the second variant at variation unit 10 .
(2) $1: 7,1.2$ is the reference where this place of variation occurs: chapter 1 , verse 7 , the first place of variation in this verse, the second variant there.
(3) This variant was initiated in terminal witness MS D06*
(4) The variant reads: $\alpha \cup \tau o u$ (his)

Since the variant was initiated in a terminal witness, it is a singularity with no inheritance.
The following line means:

| 7.2 | $1: 3,3.2$ | Ex-163\$ | סı $\epsilon \alpha \cup \tau 0 \cup$ |
| :--- | :--- | :--- | :--- |

(1) 7.2 refers to the second variant at variation unit 7 .
(2) 1:3,3.2 is the reference where this place of variation occurs: chapter 1 , verse 3 , the third place of variation in this verse, the second variant there.
(3) This variant was initiated in exemplar Ex-137\$, a virtual exemplar, a source of mixture.
(4) The variant reads: $\delta \iota \epsilon \alpha \cup \tau o u$ (by himself)

| VarUnit | Reference | Source | Reading |
| :---: | :---: | :---: | :---: |
| 1.2 | 1：1，1．2 | Ex－158\＄ | $\eta \mu \omega \nu$ |
| 2.2 | 1：2，1．2 | Ex－163\＄ | －$\alpha \tau \omega \nu$ |
| 3.2 | 1：2，2．2 | Ex－158\＄ | ${ }^{\circ}$ оицт |
| 4.2 | 1：2，3．2 | Ex－163\＄ | 21 |
| 5.2 | 1：3，1．2 | Ex－158\＄ | $\phi \alpha \nu \in \rho \omega \nu$ |
| 6.2 | 1：3，2．2 | Ex－158\＄ | ${ }^{\circ}$ оиı $\tau$ |
| 7.2 | 1：3，3．2 | Ex－163\＄ | $\delta \iota$ ¢ $¢$ utou |
| 8.2 | 1：3，4．2 | Ex－156\＃ | $\eta \mu \omega \nu$ |
| 9.2 | 1：4，1．2 | Ex－158\＄ | ${ }^{\circ}$ out $\tau$ |
| 10.2 | 1：7，1．2 | D06＊ | $\alpha$ บтou |
| 11.2 | 1：7，2．2 | Ex－158\＄ | $\pi \nu \in \cup \mu \alpha$ |
| 12.2 | 1：8，1．2 | Ex－158\＄ | ${ }^{\square}$ о $\mu$ т |
| 13.2 | 1：8，2．2 | Ex－156\＃ | ${ }^{\circ}$ оиц $\tau$ |
| 14.2 | 1：8，3．2 | Ex－156\＃ | $\rho \alpha \beta . \epsilon \cup \theta$ ．$\eta$ |
| 14.3 | 1：8，3．3 | 01＊ | $\dot{\eta}$ |
| 15.2 | 1：8，4．2 | Ex－158\＄ | ＊$\alpha$ บтou |
| 16.2 | 1：9，1．2 | D06＊ | －$\mu \mathrm{L} \alpha \varsigma$ |
| 16.3 | 1：9，1．3 | Ex－163\＄ | $\alpha \delta \iota \kappa \iota \alpha \nu$ |
| 17.2 | 1：11，1．2 | Ex－151\＃ | －$\mu \in \nu \in i ̂ ¢$ |
| 18.2 | 1：12，1．2 | Ex－158\＄ | $\alpha \lambda \lambda \alpha \xi \in ⿺ 𠃊$ |
| 19.1 | 1：12，2．1 | Ex－158\＄ | ${ }^{\square} \omega \varsigma$ ц $\mu \alpha \tau \iota \circ \nu$ |
| 19.3 | 1：12，2．3 | D06＊ | vธ $\tau \xi \tau, \sigma \in \delta$ ou．$\kappa \alpha \iota$ |
| 20.2 | 1：14，1．2 | Ex－158\＄ | －$\nu \iota \alpha \varsigma$ |
| 21.2 | 2：1，1．2 | Ex－153 | ${ }^{\square}$ оиьт |
| 22.2 | 2：2，1．2 | Ex－158\＄ | － 人ou |
| 23.2 | 2：4，1．2 | Ex－158\＄ | бици $\alpha \rho-$ |
| 24.2 | 2：4，2．2 | Ex－151\＃ | ${ }^{\circ}$ оиьт |
| 25.2 | 2：4，3．2 | D06＊ | тov $\theta \in 0 \cup$ |
| 26.2 | 2：6，1．2 | Ex－158\＄ | $\tau \iota \varsigma$ |
| 27.1 | 2：7，1．1 | Ex－158\＄ | ${ }^{\top}$ out $\tau$ |
| 28.1 | 2：8，1．1 | Ex－158\＄ |  |
| 28.3 | 2：8，1．3 | Ex－159\＄ | 1 |
| 29.2 | 2：8，2．2 | Ex－158\＄ | ${ }^{\circ} \mathrm{o} \mathrm{\mu} \mathrm{\iota} \mathrm{\tau}$ |
| 30.2 | 2：9，1．2 | Ex－158\＄ | $\chi \omega \rho ⿺ \varsigma 日$ ө́ou |
| 31.2 | 2：11，1．2 | Ex－145 | －$\lambda \omega \nu$ |
| 32.2 | 2：14，1．2 | Ex－158\＄ | $\pi \alpha \theta \eta \mu \alpha \tau \omega \nu$ |
| 33.2 | 2：17，1．2 | Ex－158\＄ | $\tau \alpha \iota \varsigma-\tau \iota \alpha \iota \varsigma$ |
| 34.2 | 3：2，1．2 | Ex－158\＄ | ${ }^{\circ}$ оиı $\tau$ |
| 35.1 | 3：3，1．1 | Ex－158\＄ |  |
| 36.2 | 3：4，1．2 | Ex－158\＄ | $\tau \alpha$ |
| 37.2 | 3：6，1．2 | Ex－163\＄ | о¢ |
| 38.1 | 3：6，2．1 | Ex－158\＄ | ${ }^{\prime} \in \propto \nu \pi \pi \in \rho$ |


| 38.3 | 3:6,2.3 | 01* | к $\alpha \nu$ |
| :---: | :---: | :---: | :---: |
| 39.1 | 3:6,3.1 | Ex-158\$ | ${ }^{\top}$ о ${ }^{\text {¢ }}$ ¢ $\tau$ |
| 40.1 | 3:9,1.1 | Ex-163\$ | ${ }^{\top}$ о ${ }^{\text {¢ }}$, |
| 41.2 | 3:9,2.2 | Ex-158\$ | , $\epsilon \delta о \kappa \iota \mu \alpha \sigma \alpha \nu$ |
| 41.3 | 3:9,2.3 | Ex-159\$ | , $\epsilon \delta . \mu \epsilon$ |
| 42.2 | 3:10,1.2 | Ex-158\$ | $\epsilon К \in\llcorner\nu \eta$ |
| 43.2 | 3:10,2.2 | Ex-158\$ | $\epsilon \nu \tau \eta \kappa \alpha \rho \delta . \alpha \nu \tau \omega \nu$, $\delta \iota o$ |
| 44.2 | 3:13,1.2 | Ex-158\$ | - $\lambda \in \sigma \alpha \tau \epsilon$ |
| 45.2 | 3:13,2.2 | Ex-158\$ | $\kappa \alpha \lambda \in \iota \tau \epsilon$ |
| 46.2 | 3:13,3.2 | Ex-158\$ | 21 |
| 47.2 | 3:14,1.2 | Ex-158\$ | บтобт. גutov |
| 47.3 | 3:14,1.3 | $424 \wedge$ c |  |
| 48.2 | 3:17,1.2 | Ex-158\$ | K $\alpha$ L |
| 49.2 | 3:17,2.2 | Ex-136 | $\alpha \pi \epsilon\llcorner\theta \eta \sigma \alpha \sigma \iota \nu$ |
| 50.2 | 3:18,1.2 | Ex-163\$ | $\alpha \pi\llcorner\sigma \tau \eta \sigma \alpha \sigma \iota \nu$ |
| 51.2 | 4:1,1.2 | D06* | $\tau \eta \mathrm{s}$ |
| 52.2 | 4:2,1.2 | Ex-159\$ |  |
| 52.3 | 4:2,1.3 | 104*\% | - $\alpha \mu \mu \mu \in \nu о \iota$ |
| 53.2 | 4:2,2.2 | Ex-159\$ | $\tau \omega \nu$ ккоиб $\alpha \nu \tau \omega \nu$ |
| 53.3 | 4:2,2.3 | Ex-151\# | тоıऽ $\alpha \kappa 0 \cup \sigma \theta \in\llcorner\sigma \iota \nu$ |
| 54.2 | 4:3,1.2 | Ex-158\$ | - $\chi \omega \mu \in \theta \alpha$ |
| 55.2 | 4:3,2.2 | Ex-159\$ | ouv |
| 55.3 | 4:3,2.3 | sy^p\% | $\delta \epsilon$ |
| 56.2 | 4:3,3.2 | Ex-158\$ | ${ }^{\circ}$ о $\mu \tau$ |
| 57.2 | 4:3,4.2 | Ex-158\$ | ${ }^{\circ}$ о ${ }^{\circ}$ ¢ $\tau$ |
| 58.2 | 4:4,1.2 | Ex-158\$ | ${ }^{\circ}$ о $\mu \tau$ |
| 59.2 | 4:5,1.2 | Ex-158\$ | $\eta$ |
| 59.3 | 4:5,1.3 | Ex-159\$ | - |
| 60.2 | 4:6,1.2 | Ex-163\$ | $\alpha \pi \iota \sigma \tau \iota \alpha \nu$ |
| 61.2 | 4:7,1.2 | Ex-158\$ | - $\rho \eta \kappa \in \nu$ |
| 61.3 | 4:7,1.3 | Ex-159\$ | $\epsilon \iota \rho \eta \tau \alpha \downarrow$ |
| 62.2 | 4:8,1.2 | Ex-158\$ | $\alpha \rho \alpha$ |
| 63.2 | 4:11,1.2 | Ex-163\$ | $\alpha \pi \iota \sigma \tau \iota \alpha \varsigma$ |
| 63.3 | 4:11,1.3 | D06* | $\alpha \lambda \eta \theta \in L \alpha \varsigma$ |
| 64.2 | 4:12,1.2 | Ex-158\$ | $\epsilon \nu \alpha \rho \gamma \eta$ ¢ |
| 65.2 | 4:12,2.2 | Ex-158\$ | $\sigma \omega \mu \alpha \tau о \varsigma$ |
| 66.2 | 4:16,1.2 | Ex-158\$ | ${ }^{\circ}{ }^{\text {out }}$ |
| 67.2 | 5:1,1.2 | Ex-158\$ | ${ }^{\circ} \mathrm{o} \mathrm{\mu} \mathrm{\tau} \mathrm{\tau}$ |
| 68.2 | 5:3,1.2 | Ex-159\$ | $\delta \iota \alpha$ т $\alpha \cup \tau \eta \nu$ |
| 68.3 | 5:3,1.3 | Ex-163\$ | $\delta \iota \alpha$ т $\alpha \cup \tau \alpha$ |
| 69.1 | 5:3,2.1 | Ex-158\$ | 「 $\alpha$ ט̉tou |
| 70.2 | 5:3,3.2 | Ex-158\$ | $\mathrm{v} \pi$ ¢ $\rho$ |
| 71.2 | 5:4,1.2 | Ex-158\$ | ${ }^{\square}$ о $\mu$ し $\tau$ |


| 72.2 | 5:4,2.2 | Ex-156\# | $\kappa \alpha \theta \alpha \pi \epsilon \rho$ |
| :---: | :---: | :---: | :---: |
| 72.3 | 5:4,2.3 | C*\% | $\kappa \alpha \theta \omega \varsigma$ |
| 73.2 | 5:6,1.2 | Ex-158\$ | $\epsilon \mathrm{L}$ |
| 74.2 | 5:11,1.2 | Ex-158\$ | ${ }^{\circ}$ оцı $\tau$ |
| 75.2 | 5:12,1.2 | Ex-163\$ | - $\sigma \kappa \in \sigma \theta \alpha\llcorner\cup \mu$. |
| 76.1 | 5:12,2.1 | Ex-152\# | ${ }^{\text {「 } \tau \iota \nu \alpha}$ |
| 76.3 | 5:12,2.3 | Ex-159\$ | - |
| 77.2 | 5:12,3.2 | Ex-163\$ | ${ }^{\circ}$ о $\mu \tau \tau$ |
| 78.2 | 5:13,1.2 | D06* | $\alpha \kappa \mu \eta \nu$ |
| 79.2 | 6:2,1.2 | Ex-158\$ | $\delta \iota \delta \alpha \chi \eta \nu$ |
| 80.2 | 6:2,2.2 | Ex-158\$ | ${ }^{\circ}$ онı $\tau$ |
| 81.2 | 6:3,1.2 | Ex-159\$ | - $\sigma \omega \mu \in \nu$ |
| 82.2 | 6:9,1.2 | Ex-158\$ | $\alpha \delta \in \lambda \phi$ ol |
| 82.3 | 6:9,1.3 | Ex-159\$ | $\alpha \gamma \alpha \pi . \alpha \delta$. |
| 83.2 | 6:10,1.2 | Ex-159\$ | тоט котои |
| 84.2 | 6:10,2.2 | Ex-158\$ | $\eta \nu$ |
| 85.2 | 6:11,1.2 | Ex-158\$ | $\pi\llcorner\sigma \tau \in \omega \varsigma$ |
| 85.3 | 6:11,1.3 | Ex-145 | $\pi \iota \sigma \tau . \tau \eta \varsigma \in \lambda \pi$. |
| 86.2 | 6:14,1.2 | Ex-156\# | $\hat{\eta} \mu \eta \nu$ |
| 86.3 | 6:14,1.3 | Ex-151\# | $\epsilon \iota \mu \eta$ |
| 86.4 | 6:14,1.4 | Ex-159\$ | ov $\tau \omega \varsigma \delta \eta$ |
| 87.2 | 6:16,1.2 | Ex-158\$ | $\mu \in \nu$ |
| 88.2 | 6:17,1.2 | Ex-158\$ | - $\tau \in \rho \omega \varsigma$ |
| 89.2 | 6:17,2.2 | Ex-158\$ | 21 |
| 90.2 | 6:17,3.2 | Ex-136 | - $\xi \alpha \sigma \theta \alpha \iota$ |
| 91.2 | 6:17,4.2 | 69 | к入ךтоıऽ |
| 92.2 | 6:18,1.2 | Ex-158\$ | ${ }^{\circ}$ о $\mu \tau \tau$ |
| 93.2 | 6:19,1.2 | Ex-158\$ | $\epsilon \chi \omega \mu \in \nu$ |
| 94.2 | 7:1,1.2 | Ex-152\# | os |
| 95.2 | 7:1,2.2 | 460 |  |
| 96.2 | 7:2,1.2 | Ex-158\$ | т $\alpha \nu \tau 0 \varsigma$ |
| 96.3 | 7:2,1.3 | Ex-159\$ | $\pi \alpha \nu \tau 0 \varsigma ~ \alpha \nu \tau \omega$ |
| 97.2 | 7:4,1.2 | Ex-158\$ | ${ }^{\circ}{ }^{\circ}{ }^{\text {o }}$ ¢ $\tau$ |
| 98.1 | 7:6,1.1 | Ex-158\$ | ${ }^{\top}$ oul $\tau$ |
| 99.2 | 7:6,2.2 | Ex-158\$ | - $\gamma \eta \sigma \in \nu$ |
| 100.2 | 7:9,1.2 | Ex-158\$ | ${ }^{*}$ \euts |
| 101.1 | 7:10,1.1 | Ex-158\$ | ${ }^{\top}$ o $\quad$ ¢ $\tau$ |
| 102.2 | 7:11,1.2 | Ex-158\$ | ${ }^{\circ}$ o $\mu \tau \tau$ |
| 103.2 | 7:11,2.2 | Ex-156\# | $\alpha$ ט̇tṇ |
| 103.3 | 7:11,2.3 | Ex-158\$ | $\alpha \cup \tau \eta \nu$ |
| 104.2 | 7:11,3.2 | Ex-155 | - $\theta \in \tau \eta \tau o$ |
| 105.2 | 7:13,1.2 | Ex-158\$ | - $\epsilon \chi \in \nu$ |
| 106.2 | 7:13,2.2 | Ex-158\$ | $-\epsilon \sigma \chi \in \nu$ |


| 106.3 | 7：13，2．3 | Ex－159\＄ | $\mu \in \tau \in \sigma \chi \in \nu$ |
| :---: | :---: | :---: | :---: |
| 107.2 | 7：14，1．2 | Ex－158\＄ | İбous |
| 108.2 | 7：14，2．2 | Ex－158\＄ | 1－3 54 |
| 108.3 | 7：14，2．3 | Ex－159\＄ | 12435 |
| 108.4 | 7：14，2．4 | Ex－160\＄ | 31245 |
| 108.5 | 7：14，2．5 | Ex－163\＄ |  |
| 108.6 | 7：14，2．6 | Ex－162\＄ | ouס．$\pi$ ．$\llcorner\in \rho \omega \sigma$ ．$\epsilon \lambda$ ．M． |
| 109.2 | 7：16，1．2 | Ex－159\＄ | －ıкп¢ |
| 110.2 | 7：17，1．2 | Ex－158\＄ | －$\rho \in \mathrm{L}$ |
| 111.2 | 7：17，2．2 | Ex－158\＄ | $\epsilon \mathrm{L}$ |
| 112.2 | 7：18，1．2 | Ex－158\＄ | ${ }^{\circ}{ }^{\text {o }}$ ¢ $\tau$ |
| 113.2 | 7：21，1．2 | Ex－158\＄ | $\epsilon \mathrm{L}$ |
| 114.2 | 7：21，2．2 | Ex－156\＃ |  |
| 115.2 | 7：22，1．2 | Ex－156\＃ | тoбovtov |
| 116.1 | 7：22，2．1 | Ex－158\＄ | ${ }^{\circ} \mathrm{K} \alpha \iota$ |
| 117.2 | 7：24，1．2 | D06＊ | Lє $¢ \alpha \tau \in L \alpha \nu$ |
| 118.1 | 7：26，1．1 | Ex－158\＄ | ${ }^{\circ} \mathrm{K} \alpha \iota$ |
| 119.2 | 7：27，1．2 | D06＊ | o $\alpha \rho \chi$ LE $\rho \in \cup$ S |
| 119.3 | 7：27，1．3 | Ex－158\＄ | ol $\downarrow \in \rho \in ⿺ 𠃊 ⿳ 亠 丷 厂 彡$ |
| 120.2 | 7：27，2．2 | Ex－158\＄ | $\theta$ טбı $\alpha \nu$ |
| 120.3 | 7：27，2．3 | Ex－159\＄ | － |
| 121.2 | 7：27，3．2 | Ex－152\＃ | $\pi \rho о \sigma \in \nu-$ |
| 122.2 | 7：28，1．2 | Ex－158\＄ | $\llcorner\in \rho \in\llcorner ¢$ |
| 123.2 | 8：1，1．2 | Ex－158\＄ | $\epsilon \nu$ |
| 124.2 | 8：1，2．2 | Ex－158\＄ | uభך入oıs |
| 124.3 | 8：1，2．3 | 365\％ | oupavtols |
| 125.1 | 8：2，1．1 | Ex－158\＄ | ${ }^{\top}$ out $\tau$ |
| 126.2 | 8：4，1．2 | Ex－155 | $\gamma \alpha \rho$ |
| 127.2 | 8：4，2．2 | Ex－159\＄ | $\tau \omega \nu \quad\llcorner\in \rho \in \omega \nu$ |
| 128.2 | 8：4，3．2 | Ex－158\＄ | тov |
| 129.2 | 8：6，1．2 | B＊\％ | ＊$\nu$ v |
| 130.1 | 8：6，2．1 | Ex－158\＄ | ${ }^{\top} \tau \in \tau \cup \chi \in \nu$ |
| 130.2 | 8：6，2．2 | Ex－159\＄ | $\tau \in \tau \in \cup \chi \in \nu$ |
| 131.2 | 8：6，3．2 | Ex－158\＄ | ${ }^{\circ}{ }^{\circ} \mu$ ¢ $\tau$ |
| 132.2 | 8：7，1．2 | B＊\％ | $\epsilon \tau \in \rho \alpha \varsigma$ |
| 132.3 | 8：7，1．3 | 365\％ | бєutєpos |
| 133.2 | 8：8，1．2 | Ex－158\＄ | $\alpha$ טtoıs |
| 134.2 | 8：9，1．2 | Ex－158\＄ | －paıs |
| 135.2 | 8：10，1．2 | Ex－158\＄ | $\mu \mathrm{ov}$ |
| 136.2 | 8：10，2．2 | Ex－158\＄ | －$\delta \iota \alpha \nu$ |
| 136.3 | 8：10，2．3 | P025＊\％ | －$\delta \iota \alpha \iota \varsigma$ |
| 136.4 | 8：10，2．4 | B＊\％ | －$\delta \iota \alpha$ |
| 137.2 | 8：10，3．2 | Ex－158\＄ | $\gamma \rho \alpha \psi \omega$ |


| 138.2 | 8:11,1.2 | Ex-151\# | $\pi \lambda \eta \sigma$ Lov |
| :---: | :---: | :---: | :---: |
| 138.3 | 8:11,1.3 | 326 |  |
| 139.2 | 8:11,2.2 | Ex-158\$ | ${ }^{\circ}$ о $\mu \tau \tau$ |
| 140.2 | 8:11,3.2 | Ex-158\$ | $\alpha \nu \tau \omega \nu$ |
| 141.2 | 8:12,1.2 | Ex-159\$ | к. $\tau . \alpha \mu$. $\alpha \cup \tau$. $\kappa \alpha \iota \tau \omega \nu \alpha \nu 0 \mu \mathrm{~L} \omega \nu \alpha \nu \tau \omega \nu$ |
| 141.3 | 8:12,1.3 | 075\% | $\kappa \alpha \iota \tau \omega \nu \alpha \nu$. $\alpha \cup \tau$. $\kappa \alpha \iota \tau \omega \nu \alpha \mu$. $\alpha \cup \tau$. |
| 141.4 | 8:12,1.4 | Ex-160\$ | $\kappa \alpha \iota \tau \omega \nu \alpha \nu . \alpha \nu \tau$. |
| 142.2 | 9:1,1.2 | Ex-163\$ | ${ }^{\circ}$ о $\mu \tau \tau$ |
| 143.2 | 9:1,2.2 | Ex-159\$ | бкп $\dagger \eta$ |
| 144.2 | 9:2,1.2 | Ex-158\$ |  |
| 145.2 | 9:2,2.2 | Ex-151\# | $\dot{\alpha} \gamma i \alpha$ |
| 145.3 | 9:2,2.3 | Ex-159\$ | $\tau \alpha \alpha \gamma \iota \alpha$ |
| 145.4 | 9:2,2.4 | Ex-160\$ | $\alpha \gamma . \alpha \gamma \iota \omega \nu$ |
| 146.2 | 9:3,1.2 | Ex-158\$ | $\tau \alpha \alpha \gamma\llcorner\alpha \sim \omega \nu \alpha \gamma \iota \omega \nu$ |
| 146.3 | 9:3,1.3 | Ex-159\$ | $\alpha \gamma . \tau \omega \nu$ 氺 $\alpha \omega \nu$ |
| 146.4 | 9:3,1.4 | $\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}$ | $\alpha \gamma \iota \ddot{\alpha}$ |
| 147.2 | 9:4,1.2 | Ex-158\$ | $\epsilon \chi$ ¢טб $\alpha$ |
| 148.2 | 9:4,2.2 | Ex-158\$ | ${ }^{\circ}$ оцı $\tau$ |
| 149.2 | 9:9,1.2 | D06* | $\pi \rho \omega \tau \eta$ |
| 150.2 | 9:9,2.2 | Ex-158\$ | ov |
| 151.2 | 9:10,1.2 | Ex-158\$ | $\kappa \alpha \iota \delta \iota \kappa-\mu \alpha \tau \alpha$ |
| 151.3 | 9:10,1.3 | Ex-159\$ | $\kappa \alpha \iota \delta \iota \kappa-\mu \alpha \sigma \iota \nu$ |
| 151.4 | 9:10,1.4 | D06* | , $\delta \iota \kappa-\mu \alpha$ |
| 152.1 | 9:11,1.1 | Ex-158\$ |  |
| 153.2 | 9:12,1.2 | P025*\% | $\tau \omega \nu \alpha \gamma \iota \omega \nu$ |
| 154.2 | 9:14,1.2 | Ex-159\$ | $\alpha \gamma$ ıov |
| 155.1 | 9:14,2.1 | Ex-158\$ | ${ }^{\top} \eta \mu \omega \nu$ |
| 155.3 | 9:14,2.3 | 614* | - |
| 156.2 | 9:14,3.2 | Ex-158\$ | $\kappa \alpha \iota \alpha \lambda \eta \theta \iota \nu \omega$ |
| 157.2 | 9:17,1.2 | Ex-158\$ | $\mu \eta$ тoтє |
| 158.2 | 9:19,1.2 | Ex-158\$ | тทs |
| 159.2 | 9:19,2.2 | Ex-163\$ | ${ }^{\circ} \mathrm{o} \mu \tau \tau$ |
| 160.2 | 9:19,3.2 | Ex-158\$ | 1 |
| 160.3 | 9:19,3.3 | Ex-159\$ | 4231 |
| 160.4 | 9:19,3.4 | Ex-160\$ | 124 |
| 161.2 | 9:25,1.2 | Ex-158\$ | $\tau \omega \nu \alpha \gamma \iota \omega \nu$ |
| 162.2 | 9:26,1.2 | Ex-158\$ | $\alpha \pi 0 \theta \alpha \nu \in \iota \nu$ |
| 163.2 | 9:26,2.2 | Ex-163\$ | 2 |
| 163.3 | 9:26,2.3 | Eus^b\% | $\alpha \mu \alpha \rho \tau \iota \omega \nu$ |
| 164.2 | 9:28,1.2 | Ex-158\$ | $\delta \iota \alpha \pi \iota \sigma \tau \epsilon \omega \varsigma$ |
| 165.2 | 10:1,1.2 | Ex-158\$ | ouk $\alpha \cup \tau \omega \nu$ |
| 165.3 | 10:1,1.3 | 69 | ou к $\alpha$ ¢ $\alpha$ |
| 165.4 | 10:1,1.4 | Ex-159\$ | $\kappa \alpha \downarrow$ |


| 166.2 | 10:1,2.2 | Ex-158\$ | $\alpha \cup \tau \omega \nu$ |
| :---: | :---: | :---: | :---: |
| 167.2 | 10:1,3.2 | Ex-158\$ | $\alpha \iota \varsigma$ |
| 167.3 | 10:1,3.3 | Ex-159\$ | - |
| 168.2 | 10:1,4.2 | Ex-152\# | - $\nu \alpha \nu \tau \alpha \downarrow$ |
| 169.2 | 10:2,1.2 | H015*\% | ou |
| 169.3 | 10:2,1.3 | Ex-158\$ | к $\alpha \nu$ |
| 169.4 | 10:2,1.4 | Ex-159\$ | $\alpha \nu$ |
| 170.2 | 10:4,1.2 | Ex-158\$ | 21 |
| 171.2 | 10:4,2.2 | Ex-158\$ | $\alpha \phi \in \lambda \in L \nu$ |
| 172.2 | 10:6,1.2 | Ex-158\$ | - $\mu \alpha$ |
| 173.2 | 10:7,1.2 | Ex-158\$ | $\gamma \alpha \rho$ |
| 174.2 | 10:8,1.2 | Ex-156\# | -ı $\alpha \nu$ к. - $\alpha^{\prime} \nu$ |
| 175.2 | 10:8,2.2 | Ex-158\$ | тov |
| 176.2 | 10:9,1.2 | Ex-163\$ | , о $\theta \in \bigcirc \bigcirc$, |
| 177.2 | 10:10,1.2 | Ex-149 | OL |
| 177.3 | 10:10,1.3 | 323* | $\eta \mu \in\llcorner\varsigma$ |
| 178.2 | 10:10,2.2 | D06* | $\alpha \iota \mu \alpha \tau 0 \varsigma$ |
| 179.2 | 10:11,1.2 | Ex-158\$ | $\alpha \rho \chi$ ¢ $¢$ |
| 180.2 | 10:11,2.2 | Ex-158\$ | -ı $\alpha \nu$ |
| 181.2 | 10:12,1.2 | Ex-155 | $\alpha$ ¢tos |
| 182.2 | 10:12,2.2 | Ex-158\$ | $\epsilon \kappa \delta \epsilon \xi \iota \omega \nu$ |
| 183.2 | 10:13,1.2 | Ex-158\$ | ${ }^{\circ}$ оцı $\tau$ |
| 184.2 | 10:14,1.2 | Ex-158\$ |  |
| 185.2 | 10:15,1.2 | Ex-158\$ | $\pi \rho о є\llcorner\rho-$ |
| 186.2 | 10:16,1.2 | Ex-163\$ | $\delta \epsilon$ |
| 187.2 | 10:16,2.2 | Ex-151\# | $\tau \omega \nu \delta \iota \alpha \nu \circ \iota \omega \nu$ |
| 188.2 | 10:17,1.2 | Ex-158\$ | voтєpov $\lambda \in \gamma \in \iota$ |
| 188.3 | 10:17,1.3 | Ex-159\$ | $\tau о \tau \epsilon \in\llcorner\rho \eta \kappa \in \nu$ |
| 189.2 | 10:17,2.2 | Ex-163\$ | ${ }^{\circ}$ о $\mu \tau$ |
| 190.2 | 10:17,3.2 | Ex-158\$ | $\mu \nu \eta \sigma \theta \omega$ |
| 191.2 | 10:18,1.2 | Ex-158\$ | ${ }^{\circ}$ о $\mu \tau$ |
| 192.2 | 10:22,1.2 | Ex-158\$ | - $\chi$ о $\dagger \in \alpha$ |
| 193.2 | 10:23,1.2 | Ex-151\# | $\eta \mu \omega \nu$ |
| 194.2 | 10:24,1.2 | Ex-158\$ | $\epsilon \mathrm{K}$ - $\mu \mathrm{ov}$ |
| 195.2 | 10:25,1.2 | Ex-158\$ | к $\alpha \tau \alpha \lambda$ - |
| 196.2 | 10:25,2.2 | Ex-145 | ¢оutous |
| 197.2 | 10:26,1.2 | Ex-158\$ | ${ }^{\circ}$ о $\mu \tau \tau$ |
| 198.2 | 10:26,2.2 | Ex-158\$ | $\alpha \mu \alpha \rho \tau \iota \alpha \varsigma$ |
| 199.2 | 10:26,3.2 | Ex-158\$ | $\kappa \alpha \tau \alpha \lambda-$ |
| 199.3 | 10:26,3.3 | D06* | $\pi \epsilon \rho\llcorner\lambda$ - |
| 200.2 | 10:28,1.2 | D06* | $\kappa \alpha \iota$ б $\alpha \kappa \rho \nu \omega \nu$ |
| 201.2 | 10:29,1.2 | Ex-158\$ | $\kappa \alpha \tau \alpha \xi-$ |
| 202.2 | 10:29,2.2 | Ex-158\$ | кんL $\downarrow \eta$ ¢ |


| 203.2 | 10:29,3.2 | Ex-136 | ${ }^{\square}$ out $\tau$ |
| :---: | :---: | :---: | :---: |
| 204.2 | 10:30,1.2 | Ex-159\$ | $\lambda \in \gamma \in \mathrm{L}$ кuplos |
| 205.2 | 10:30,2.2 | Ex-163\$ | o亢ı |
| 206.2 | 10:30,3.2 | Ex-158\$ | 21 |
| 207.2 | 10:32,1.2 | Ex-158\$ | $\eta \mu . \nu \mu \omega \nu$ |
| 207.3 | 10:32,1.3 | 01* | $\alpha \mu \alpha \rho \tau \iota \alpha \varsigma \nu \mu \omega \nu$ |
| 208.2 | 10:33,1.2 | D06* |  |
| 209.2 | 10:34,1.2 | Ex-159\$ | бєбرоьऽ |
| 209.3 | 10:34,1.3 | Ex-164\$ | - $\quad$ оıऽ $\mu$ оv |
| 209.4 | 10:34,1.4 | Ex-163\$ | - $\quad$ оıऽ $\alpha \cup \tau \omega \nu$ |
| 210.2 | 10:34,2.2 | Ex-158\$ | $\epsilon$ ¢ |
| 210.3 | 10:34,2.3 | Ex-140 | $\epsilon \nu$ єגutoıs |
| 210.4 | 10:34,2.4 | P025*\% | - |
| 210.5 | 10:34,2.5 | 0150 | u $\mu \alpha$ ¢ |
| 211.2 | 10:34,3.2 | Ex-163\$ | $\epsilon \nu$ oupavols |
| 212.2 | 10:37,1.2 | Ex-158\$ | ${ }^{\circ}$ оиı $\tau$ |
| 213.2 | 10:38,1.2 | Ex-163\$ | 23 |
| 213.3 | 10:38,1.3 | Ex-158\$ | 231 |
| 214.2 | 10:38,2.2 | Ex-158\$ | 21 |
| 215.2 | 11:1,1.2 | Ex-158\$ | $\pi \rho \alpha \gamma \mu . \alpha \pi о \sigma \tau \alpha \sigma \iota \varsigma$ |
| 216.2 | 11:2,1.2 | Ex-158\$ | $\alpha \cup \tau \eta$ |
| 217.2 | 11:3,1.2 | Ex-151\# | $\tau \alpha \beta \lambda \in \pi о \mu \in \nu \alpha$ |
| 218.2 | 11:4,1.2 | Ex-158\$ | ${ }^{\square}$ о $\mu \tau \tau$ |
| 219.2 | 11:4,2.2 | Ex-152\# | $\alpha \cup \tau 0 \cup$ т $\omega$ Өє $\omega$ |
| 219.3 | 11:4,2.3 | Ex-159\$ | $\alpha \cup \tau \omega$ тov $\theta \in$ ou |
| 220.2 | 11:4,3.2 | Ex-159\$ | $\lambda \alpha \lambda \in \iota \tau \alpha \downarrow$ |
| 221.2 | 11:5,1.2 | Ex-158\$ | $\alpha$ ¢тou |
| 222.2 | 11:6,1.2 | Ex-158\$ | ${ }^{\circ} \mathrm{o} \mathrm{\mu} \mathrm{\iota} \mathrm{\tau}$ |
| 223.2 | 11:6,2.2 | Ex-158\$ | $\zeta \eta \tau-$ |
| 224.2 | 11:8,1.2 | Ex-158\$ | 0 |
| 225.2 | 11:8,2.2 | Ex-156\# | тov |
| 226.1 | 11:11,1.1 | Ex-163\$ |  |
| 226.3 | 11:11,1.3 | Ex-158\$ | $\alpha \nu \tau . \Sigma$. $\sigma \tau \in\llcorner\rho \alpha$ ov $\alpha \alpha$ |
| 226.4 | 11:11,1.4 | Ex-159\$ | $\alpha \cup \tau . \Sigma$. $\eta$ б $\tau \in\llcorner\rho \alpha$ |
| 227.2 | 11:11,2.2 | Ex-158\$ | $\epsilon \iota \varsigma$ то тєК $\nu \omega \sigma \alpha \iota$ |
| 228.2 | 11:11,3.2 | Ex-158\$ | $\epsilon \tau \in K \in \nu$ |
| 229.2 | 11:12,1.2 | Ex-163\$ | ${ }^{*} \epsilon \gamma \epsilon \nu \eta \theta \eta \sigma \alpha \nu \nu$ |
| 230.2 | 11:12,2.2 | Ex-158\$ | ${ }^{\square}$ о $\mu \tau \tau$ |
| 231.2 | 11:13,1.2 | Ex-152\# |  |
| 231.3 | 11:13,1.3 | Ex-136 | $\pi \rho о \sigma \delta \in \xi \alpha \mu \in \nu \circ\llcorner$ |
| 232.2 | 11:13,2.2 | Ex-158\$ | $\kappa \alpha \iota \pi \epsilon\llcorner\sigma \theta \in \nu \tau \in \zeta$ |
| 233.2 | 11:14,1.2 | Ex-158\$ | $\zeta \eta \tau-$ |
| 234.2 | 11:15,1.2 | Ex-145 | - $\nu \in \cup \sigma \alpha \nu$ |


| 234.3 | 11：15，1．3 | Ex－158\＄ | $\mu \nu \eta \mu 0 \nu \in$ vovolv |
| :---: | :---: | :---: | :---: |
| 235.2 | 11：15，2．2 | Ex－158\＄ | $\epsilon \xi \eta \lambda$ 䊅 $\nu$ |
| 236.2 | 11：17，1．2 | Ex－158\＄ | 145 |
| 236.3 | 11：17，1．3 | Ex－159\＄ | $13-5$ |
| 236.4 | 11：17，1．4 | Ex－160\＄ | 1 3－5 2 |
| 236.5 | 11：17，1．5 | 1505＊\％ | 13425 |
| 237.2 | 11：19，1．2 | Ex－158\＄ | －$\alpha \alpha \iota$ |
| 238.2 | 11：19，2．2 | P025＊\％ | $\delta \cup \nu . \epsilon \sigma \tau\llcorner\nu$ |
| 238.3 | 11：19，2．3 | Ex－158\＄ | $\delta \cup \nu \alpha \tau \alpha \downarrow$ |
| 239.2 | 11：20，1．2 | Ex－158\＄ | ${ }^{\circ} \mathrm{o} \mu \iota \tau$ |
| 240.2 | 11：23，1．2 | Ex－158\＄ |  $\tau \alpha \pi \epsilon \iota \nu \omega \sigma \iota \nu \tau \omega \nu \alpha \delta \in \lambda \phi \omega \nu \alpha \nu \tau 0 \cup$ |
| 241.2 | 11：29，1．2 | Ex－155 | ${ }^{\circ}{ }^{\text {o }}$ ¢ $\tau$ |
| 242.2 | 11：29，2．2 | 104＊\％ | －$\pi 0 \nu \tau \iota \sigma \theta \eta \sigma \alpha \nu$ |
| 243.2 | 11：31，1．2 | Ex－158\＄ | $\epsilon \pi\llcorner\lambda \in \gamma \sigma \mu \in \nu \eta$ |
| 244.2 | 11：31，2．2 | Ex－158\＄ | $\alpha \pi \iota \sigma \tau \eta \sigma \alpha \sigma \iota \nu$ |
| 245.1 | 11：32，1．1 | Ex－152\＃ | ＇$\mu \in \gamma \alpha \rho$ |
| 245.3 | 11：32，1．3 | Ex－143 | 1 |
| 246.2 | 11：32，2．2 | Ex－158\＄ | $\tau \in \kappa \alpha \downarrow \Sigma$ ．$\kappa \alpha \downarrow$ |
| 246.3 | 11：32，2．3 | Ex－159\＄ | $\tau \in \kappa \alpha \downarrow \Sigma$ ． |
| 247.2 | 11：33，1．2 | Ex－158\＄ | $\beta \alpha \sigma \iota \lambda \in ⿺ 𠃊$ |
| 248.1 | 11：34，1．1 | Ex－158\＄ | ${ }^{\prime}$ ¢ $\delta u \nu \alpha \mu \omega \theta \eta \sigma \alpha \nu$ |
| 249.2 | 11：35，1．2 | Ex－152\＃ | －каऽ |
| 250.1 | 11：37，1．1 | Ex－158\＄ | 「＇$¢ \pi \rho\llcorner\sigma \theta \eta \sigma \alpha \nu$ |
| 250.2 | 11：37，1．2 | Ex－152\＃ | ${ }^{*} \epsilon \pi \epsilon\llcorner\rho \alpha \sigma \theta \eta \sigma \alpha \nu, \epsilon \pi \rho \rho \sigma \theta \eta \sigma \alpha \nu$ |
| 250.4 | 11：37，1．4 | Ex－159\＄ | $\epsilon \pi \epsilon\llcorner\rho-$ |
| 251.2 | 11：38，1．2 | Ex－158\＄ | $\epsilon \nu$ |
| 252.2 | 11：39，1．2 | Ex－158\＄ | ${ }^{\circ}{ }^{\text {o }}$ \％$\tau$ |
| 253.2 | 11：39，2．2 | Ex－158\＄ | $\tau \alpha \varsigma-\llcorner\alpha \varsigma$ |
| 254.2 | 11：40，1．2 | Ex－158\＄ | $\pi \rho о \sigma \beta \lambda \in \psi \alpha \mu \in \nu O \cup$ |
| 254.3 | 11：40，1．3 | $\mathrm{Cl}^{\wedge} \mathrm{a} \%$ | $\pi \rho о є\llcorner\delta о \mu \in \nu$ ои |
| 255.2 | 12：1，1．2 | Ex－158\＄ | тп入ıкоито้ |
| 256.2 | 12：1，2．2 | Ex－158\＄ | $\epsilon \cup \pi \epsilon \rho\llcorner\sigma \pi \alpha \sigma \tau<\nu$ |
| 257.2 | 12：2，1．2 | Ex－158\＄ | тov |
| 258.2 | 12：2，2．2 | Ex－158\＄ | $\epsilon \kappa \alpha \theta\llcorner\sigma \epsilon \nu$ |
| 259.2 | 12：3，1．2 | Ex－158\＄ | ${ }^{\circ}$ о $\mu \tau \tau$ |
| 260.1 | 12：3，2．1 | Ex－158\＄ | ${ }^{\text {¢ }}$ ¢ 人utov |
| 260.2 | 12：3，2．2 | Ex－163\＄ | $\alpha$＜tov |
| 261.2 | 12：3，3．2 | Ex－158\＄ | ${ }^{\circ}$ о $\mu \tau \tau$ |
| 262.2 | 12：3，4．2 | Ex－158\＄ | $\epsilon \kappa \lambda \in \lambda \cup \mu \in \nu \circ\llcorner$ |
| 263.2 | 12：4，1．2 | Ex－158\＄ | $\gamma \alpha \rho$ |
| 264.2 | 12：4，2．2 | Ex－158\＄ | $\alpha \gamma \omega \nu-$ |
| 265.2 | 12：5，1．2 | Ex－158\＄ | ${ }^{\circ} \mathrm{o} \mu \tau \tau$ |


| 266.2 | 12:5,2.2 | Ex-158\$ | $\kappa \alpha \iota \mu \eta$ |
| :---: | :---: | :---: | :---: |
| 267.2 | 12:7,1.2 | Ex-158\$ | $\epsilon \mathrm{l}$ |
| 268.1 | 12:7,2.1 | Ex-158\$ | ${ }^{\top}$ out $\tau$ |
| 269.1 | 12:9,1.1 | Ex-158\$ | ${ }^{\circ} \delta^{\prime} \epsilon$ |
| 270.2 | 12:9,2.2 | 440 | $\pi \nu \in \cup \mu \alpha \tau \tau \kappa \omega \nu$ |
| 270.3 | 12:9,2.3 | 1241*\% | $\pi \alpha \tau \in \rho \omega \nu$ |
| 271.2 | 12:11,1.2 | Ex-158\$ | ${ }^{*} \mu \in \nu$ |
| 271.3 | 12:11,1.3 | Ex-159\$ | - |
| 272.1 | 12:13,1.1 | Ex-158\$ | 「тоLELTE |
| 272.3 | 12:13,1.3 | 048\% | -бєtє |
| 273.2 | 12:15,1.2 | Ex-158\$ | $\epsilon \nu \chi\left[. \lambda \eta^{\wedge}\right.$ |
| 274.2 | 12:15,2.2 | Ex-159\$ | ${ }^{*} \delta \iota \alpha \tau \alpha \cup-$ |
| 275.2 | 12:15,3.2 | Ex-152\# | " o |
| 276.2 | 12:16,1.2 | Ex-158\$ | $\tau \alpha \varsigma-\kappa \in L \alpha \varsigma$ |
| 277.1 | 12:16,2.1 | Ex-158\$ |  |
| 277.3 | 12:16,2.3 | Ex-159\$ | - |
| 278.2 | 12:18,1.2 | Ex-156\# | opeı |
| 279.2 | 12:18,2.2 | Ex-156\# | к. бкот $\omega$ |
| 279.3 | 12:18,2.3 | K*\% | - |
| 280.2 | 12:19,1.2 | Ex-158\$ | ${ }^{\circ}{ }^{\text {o }}$ ¢ $\tau$ |
| 281.2 | 12:19,2.2 | Ex-136 | $\pi \rho 0 \sigma \theta \in \iota \nu \alpha \downarrow$ |
| 282.2 | 12:20,1.2 | TR | $\eta \beta$ ¢ $\lambda \iota \delta \iota \kappa \alpha \tau \alpha \tau 0 \xi \in \cup \theta \eta \sigma \in \tau \alpha \iota$ |
| 283.2 | 12:21,1.2 | Ex-158\$ | єкт $\rho$ - |
| 284.2 | 12:22,1.2 | D06* | ${ }^{\circ}$ оиı $\tau$ |
| 285.2 | 12:22,2.2 | D06* | $\mu \nu \rho\llcorner\omega \nu \alpha \gamma \iota \omega \nu$ |
| 286.2 | 12:23,1.2 | Ex-155 | 21 |
| 287.2 | 12:23,2.2 | Ex-158\$ | - $\mu \alpha \tau \tau$ |
| 288.2 | 12:23,3.2 | Ex-158\$ | $\delta \iota \kappa . \tau \in \theta \in \mu \in \lambda \iota \omega \mu \in \nu \omega \nu$ |
| 288.3 | 12:23,3.3 | 01* | $\tau \in \lambda \in\llcorner\omega \nu$ ठ $\epsilon \delta \iota \kappa \alpha \iota \omega \mu \epsilon \nu$ оьऽ |
| 289.2 | 12:24,1.2 | Ex-158\$ | - $\tau \tau 0 \nu \alpha$ |
| 290.2 | 12:24,2.2 | Ex-158\$ | то |
| 291.2 | 12:25,1.2 | Ex-163\$ | єфиүоข |
| 292.2 | 12:25,2.2 | Ex-159\$ | $41-3$ |
| 292.3 | 12:25,2.3 | Ex-151\# | 3412 |
| 293.2 | 12:25,3.2 | Ex-158\$ | -vou |
| 294.2 | 12:26,1.2 | Ex-158\$ | $\sigma \in\llcorner\omega$ |
| 295.2 | 12:27,1.2 | Ex-156\# | 231 |
| 295.3 | 12:27,1.3 | Ex-159\$ | 23 |
| 296.2 | 12:28,1.2 | Ex-152\# | $\epsilon \chi$ ¢ $\dagger \in \nu$ |
| 297.2 | 12:28,2.2 | Ex-158\$ | - $\epsilon$ бо $\omega \mu \epsilon \nu$ |
| 297.3 | 12:28,2.3 | Ex-156\# | ¢ ¢ооиє $\nu$ |
| 298.3 | 12:28,3.3 | Ex-155 | $\alpha$ Lסous к. єu入. |
| 298.4 | 12:28,3.4 | Ex-158\$ | $\epsilon \cup \lambda . \kappa$ к. $\alpha\llcorner\delta$. |


| 299.2 | 12:29,1.2 | D06* | Kuplos |
| :---: | :---: | :---: | :---: |
| 300.2 | 13:4,1.2 | Ex-158\$ | $\delta \epsilon$ |
| 301.2 | 13:5,1.2 | Ex-158\$ | - $\mu \in \nu \circ \rho$ |
| 302.1 | 13:5,2.1 | Ex-158\$ | ${ }^{\text {F' }}$ ¢ $\gamma \kappa \alpha \tau \alpha \lambda \iota \pi \omega$ |
| 303.2 | 13:6,1.2 | Ex-151\# | ${ }^{\circ}$ о $\mu \tau \tau$ |
| 304.2 | 13:7,1.2 | D06* | $\pi \rho \circ \eta \gamma-$ |
| 305.2 | 13:8,1.2 | D06* | $\alpha \mu \eta \nu$ |
| 306.2 | 13:9,1.2 | Ex-158\$ | $\pi \in \rho\llcorner\phi$ - |
| 307.1 | 13:9,2.1 | Ex-158\$ |  |
| 308.2 | 13:10,1.2 | Ex-158\$ | ${ }^{\circ}$ о $\mu \tau \tau$ |
| 309.2 | 13:12,1.2 | Ex-158\$ | $\pi \alpha \rho \epsilon \mu \beta 0 \lambda \eta\rangle$ |
| 310.2 | 13:15,1.2 | Ex-158\$ | 12 |
| 310.3 | 13:15,1.3 | K*\% | $\delta \mathrm{l} \alpha$ тouto ouv |
| 311.2 | 13:16,1.2 | Ex-158\$ | $\tau \eta s$ |
| 312.2 | 13:17,1.2 | D06* | $\alpha \pi \sigma \delta \omega \sigma 0 \nu \tau \alpha \iota \quad \pi \epsilon \rho \iota \quad \nu \mu \omega \nu$ |
| 313.2 | 13:18,1.2 | D06* | к $\alpha \iota$ |
| 314.2 | 13:20,1.2 | Ex-158\$ | Xpıбто⿱ |
| 315.2 | 13:21,1.2 | Ex-163\$ | $\epsilon \rho \gamma \omega$ |
| 315.3 | 13:21,1.3 | Ex-136 | $\epsilon \rho \gamma \omega \kappa \alpha \downarrow ~ \lambda о \gamma \omega$ |
| 316.2 | 13:21,2.2 | Ex-164\$ | $\alpha \cup \tau \omega$ |
| 316.3 | 13:21,2.3 | Ex-159\$ | $\alpha$ ¢то |
| 316.4 | 13:21,2.4 | Ex-163\$ | $\alpha$ ¢tos |
| 317.2 | 13:21,3.2 | Ex-151\# | vutv |
| 318.2 | 13:21,4.2 | Ex-158\$ | ${ }^{\square}$ о $\mu \tau \tau$ |
| 319.2 | 13:22,1.2 | Ex-151\# | - $\chi \in \sigma \theta \alpha \iota$ |
| 320.2 | 13:23,1.2 | Ex-158\$ | ${ }^{\circ}{ }^{\circ}{ }^{\circ} \boldsymbol{\sim} \tau$ |
| 321.2 | 13:24,1.2 | Ex-158\$ | ${ }^{\circ}$ оиı $\tau$ |
| 322.2 | 13:25,1.2 | D06* | $\tau \omega \nu \alpha \gamma \iota \omega \nu$ |
| 322.3 | 13:25,1.3 | P^46* | - |
| 323.1 | 13:25,2.1 | Ex-158\$ | ${ }^{\top}$ o $\mu \tau \tau$ |

## Appendix G

Places Where the Non-Autographic Variants Were Initiated in the Textual History of Hebrews

Arranged in Order by Witness

This appendix lists the place in the genealogical history of the text of the Book of Hebrews 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:

| $\mathrm{P}^{\wedge} 46^{*}$ | 129.2 | $8: 6,1.2$ | ${ }^{*} \nu v \nu$ |
| :--- | :--- | :--- | :--- |

(1) This variant was initiated in papyrus $\mathrm{P}^{\wedge} 46^{*}$.
(2) 129.2 refers to the second variant at variation unit 129.
(3) $8: 6,1.2$ is the reference where this place of variation occurs: chapter 8 , verse 6 , the first place of variation in this verse, the second variant there.
(4) The variant reads: $\nu v \nu$ (now)

Since the variant was first initiated in a manuscript, it a singularity having no prior history.
The following line means:

| Ex-136 | 203.2 | $10: 29,3.2$ | ${ }^{\square}$ o $\mu \iota \tau$ |
| :--- | :--- | :--- | :--- |

(1) This variant was initiated in Exemplar Ex-136.
(2) 203.2 refers to the second variant at variation unit 203.
(3) $10: 29,3.2$ is the reference where this place of variation occurs: chapter 10 verse 29 , the third place of variation in this verse, the second variant there.
(4) The variant reads: $0 \mu \iota \tau$ (omit)

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-136) 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 $=437$



Appendix G:
Places Where Variants Initiated


Appendix G:
Places Where Variants Initiated

| 69 | 165.3 | 10:1,1.3 | ou $\kappa \alpha \tau \alpha$ |
| :---: | :---: | :---: | :---: |
| Total for $69=2$ |  |  |  |
| 104*\% | 52.3 | 4:2,1.3 | - $\rho \alpha \mu \mu \in \nu$ о |
| 104*\% | 136.3 | 8:10,2.3 | - $\delta \iota \alpha \iota \varsigma$ |
| 104*\% | 242.2 | 11:29,2.2 |  |
| Total for $104 * \%=3$ |  |  |  |
| 323* | 177.3 | 10:10,1.3 | $\eta \mu \in\llcorner\zeta$ |
| Total for $323 *=1$ |  |  |  |
| 326 | 138.3 | 8:11,1.3 |  |
| Total for $326=1$ |  |  |  |
| 365\% | 124.3 | 8:1,2.3 | oup $\alpha \nu$ Lols |
| 365\% | 132.3 | 8:7,1.3 | $\delta \in \cup \tau \epsilon \rho \circ ¢$ |
| 365\% | 136.3 | 8:10,2.3 | - $\delta \mathrm{L} \alpha<\varsigma$ |
| 365\% | 298.2 | 12:28,3.2 | 321 |
| Total for 365\% = 4 |  |  |  |
| $424 \wedge$ c | 47.3 | 3:14,1.3 | $\pi \iota \sigma \tau \in \omega ¢$ |
| Total for $424^{\wedge} \mathrm{c}=1$ |  |  |  |
| 440 | 270.2 | 12:9,2.2 | $\pi \nu \in \cup \mu \alpha \tau \iota \kappa \omega \nu$ |
| Total for $440=1$ |  |  |  |
| 460 | 95.2 | 7:1,2.2 |  $\alpha \iota \chi \mu \alpha \lambda \omega \sigma \iota \alpha \varsigma$ |
| Total for $460=1$ |  |  |  |
| 614* | 155.3 | 9:14,2.3 | - |
| Total for 614* $=1$ |  |  |  |
| $1241 * \%$ | 270.3 | 12:9,2.3 | $\pi \alpha \tau \in \rho \omega \nu$ |
| Total for $1241 * \%=$ |  |  |  |
| 1505*\% | 236.5 | 11:17,1.5 | 13425 |
| Total for $1505 * \%=$ |  |  |  |
| TR | 282.2 | 12:20,1.2 | $\eta \beta$ о $\lambda \iota \delta \iota \kappa \alpha \tau \alpha \tau \circ \xi \in \cup \theta \eta \sigma \in \tau \alpha \iota$ |
| Total for TR = 1 |  |  |  |

Appendix G:
Places Where Variants Initiated


Appendix G:
Places Where Variants Initiated

| Total for Ex-136 = 6 |  |  |  |
| :---: | :---: | :---: | :---: |
| Ex-140 | 210.3 | 10:34,2.3 | $\epsilon \nu$ ¢גutoıs |
| Total for Ex-140 = 1 |  |  |  |
|  |  |  |  |
| Ex-143 | 245.3 | 11:32,1.3 | 1 |
| Total for Ex-143 = 1 |  |  |  |
|  |  |  |  |
| Ex-145 | 31.2 | 2:11,1.2 | - $\lambda \omega \nu$ |
| Ex-145 | 85.3 | 6:11,1.3 | $\pi\llcorner\sigma \tau$. $\tau \eta \varsigma \in \lambda \pi$. |
| Ex-145 | 196.2 | 10:25,2.2 | tautous |
| Ex-145 | 234.2 | 11:15,1.2 | - $\nu \in \cup \sim \sigma \alpha \nu$ |
| Total for Ex-145 = 4 |  |  |  |
|  |  |  |  |
| Ex-149 | 177.2 | 10:10,1.2 | ol |
| Total for Ex-149 = 1 |  |  |  |
|  |  |  |  |
| Ex-151\# | 17.2 | 1:11,1.2 | - $\mu \in \nu \in i ً$ |
| Ex-151\# | 24.2 | 2:4,2.2 | ${ }^{\circ}$ oult |
| Ex-151\# | 53.3 | 4:2,2.3 |  |
| Ex-151\# | 86.3 | 6:14,1.3 | $\epsilon\llcorner\mu \eta$ |
| Ex-151\# | 138.2 | 8:11,1.2 |  |
| Ex-151\# | 145.2 | 9:2,2.2 | $\dot{\alpha} \gamma \dot{\sim} \alpha$ |
| Ex-151\# | 187.2 | 10:16,2.2 | $\tau \omega \nu$ ठ $ا \alpha \nu 0\llcorner\omega \nu$ |
| Ex-151\# | 193.2 | 10:23,1.2 | $\eta \mu \omega \nu$ |
| Ex-151\# | 217.2 | 11:3,1.2 | $\tau \alpha \beta \lambda \in \pi$ \% $\mu \in \nu \alpha$ |
| Ex-151\# | 292.3 | 12:25,2.3 | 3412 |
| Ex-151\# | 303.2 | 13:6,1.2 | ${ }^{\circ}$ oult |
| Ex-151\# | 317.2 | 13:21,3.2 | vuıv |
| Ex-151\# | 319.2 | 13:22,1.2 | - $\chi \in \sigma \theta \alpha \downarrow$ |
| Total for Ex-151\# = 13 |  |  |  |
|  |  |  |  |
| Ex-152\# | 76.1 | 5:12,2.1 | ${ }^{\text {「ıı }}$ ( |
| Ex-152\# | 94.2 | 7:1,1.2 | os |
| Ex-152\# | 121.2 | 7:27,3.2 | тробєу- |
| Ex-152\# | 168.2 | 10:1,4.2 | - $\nu \alpha \nu \tau \alpha \downarrow$ |
| Ex-152\# | 219.2 | 11:4,2.2 | $\alpha \cup \tau 0 \cup \tau \omega \theta \in \omega$ |
| Ex-152\# | 231.2 | 11:13,1.2 | * конıб $\alpha \mu \in \nu$ оь |
| Ex-152\# | 245.1 | 11:32,1.1 | ${ }^{\prime} \mu \in \gamma \alpha \rho$ |
| Ex-152\# | 249.2 | 11:35,1.2 | -к $\alpha \varsigma$ |

## Appendix G:

Places Where Variants Initiated

| Ex-152\# | 250.2 | 11:37,1.2 | " $\epsilon \pi \epsilon\llcorner\rho \alpha \sigma \theta \eta \sigma \alpha \nu, \epsilon \pi \rho\llcorner\sigma \theta \eta \sigma \alpha \nu$ |
| :---: | :---: | :---: | :---: |
| Ex-152\# | 275.2 | 12:15,3.2 | " ol |
| Ex-152\# | 296.2 | 12:28,1.2 | $\epsilon \chi$ ¢ $\dagger \in \nu$ |
| Total for Ex-152\# = 11 |  |  |  |
|  |  |  |  |
| Ex-153 | 21.2 | 2:1,1.2 | ${ }^{\square}$ opı $\tau$ |
| Total for Ex-153 = 1 |  |  |  |
|  |  |  |  |
| Ex-155 | 104.2 | 7:11,3.2 | $-\theta \in \tau \eta \tau 0$ |
| Ex-155 | 126.2 | 8:4,1.2 | $\gamma \alpha \rho$ |
| Ex-155 | 181.2 | 10:12,1.2 | $\alpha \cup \tau 0 \varsigma$ |
| Ex-155 | 241.2 | 11:29,1.2 | ${ }^{\circ}$ о $\mu \tau$ |
| Ex-155 | 286.2 | 12:23,1.2 | 21 |
| Ex-155 | 298.3 | 12:28,3.3 | $\alpha$ ¢ $\delta$ ous к. єu入. |
| Total for Ex-155 = 6 |  |  |  |
|  |  |  |  |
| Ex-156\# | 8.2 | 1:3,4.2 | $\eta \mu \omega \nu$ |
| Ex-156\# | 13.2 | 1:8,2.2 | ${ }^{\circ}$ о $\quad$ ı $\tau$ |
| Ex-156\# | 14.2 | 1:8,3.2 | $\rho \alpha \beta . \epsilon \cup \theta$. $\eta$ |
| Ex-156\# | 72.2 | 5:4,2.2 | $\kappa \alpha \theta \alpha \pi \epsilon \rho$ |
| Ex-156\# | 86.2 | 6:14,1.2 | $\chi^{\dagger} \mu \eta \nu$ |
| Ex-156\# | 103.2 | 7:11,2.2 | $\alpha$ ט̇tñ |
| Ex-156\# | 114.2 | 7:21,2.2 | $\kappa \alpha \tau \alpha \sim \eta \nu \tau \alpha \xi\llcorner\nu \mathrm{M} \in \lambda \chi\llcorner\sigma \in \delta \in \kappa$ |
| Ex-156\# | 115.2 | 7:22,1.2 | тoбoutov |
| Ex-156\# | 174.2 | 10:8,1.2 | -ı $\alpha \nu$ к. - $\rho \alpha \nu$ |
| Ex-156\# | 225.2 | 11:8,2.2 | тov |
| Ex-156\# | 278.2 | 12:18,1.2 | opel |
| Ex-156\# | 279.2 | 12:18,2.2 | к. бкот $\omega$ |
| Ex-156\# | 295.2 | 12:27,1.2 | 231 |
| Ex-156\# | 297.3 | 12:28,2.3 | - $¢ 0 \mu \in \nu$ |
| Total for Ex-156\# = 14 |  |  |  |
|  |  |  |  |
| Ex-158\$ | 1.2 | 1:1,1.2 | $\eta \mu \omega \nu$ |
| Ex-158\$ | 3.2 | 1:2,2.2 | ${ }^{\circ}$ о $\mu \tau$ |
| Ex-158\$ | 5.2 | 1:3,1.2 | $\phi \alpha \nu \in \rho \omega \nu$ |
| Ex-158\$ | 6.2 | 1:3,2.2 | ${ }^{\circ}$ о $\quad$ ¢ $\tau$ |
| Ex-158\$ | 9.2 | 1:4,1.2 | ${ }^{\circ}$ out $\tau$ |
| Ex-158\$ | 11.2 | 1:7,2.2 | $\pi \nu \in \cup \mu \alpha$ |
| Ex-158\$ | 12.2 | 1:8,1.2 | ${ }^{\square}$ out $\tau$ |
| Ex-158\$ | 15.2 | 1:8,4.2 | * $\alpha$ บтou |

Appendix G：
Places Where Variants Initiated

| Ex－158\＄ | 18.2 | 1：12，1．2 | $\alpha \lambda \lambda \alpha \xi \in \mathrm{L}$ |
| :---: | :---: | :---: | :---: |
| Ex－158\＄ | 19.1 | 1：12，2．1 | ${ }^{\square} \omega \mathrm{\omega}$ ц $\mu \alpha \tau \tau \circ \nu$ |
| Ex－158\＄ | 20.2 | 1：14，1．2 | －$\quad$ Las |
| Ex－158\＄ | 22.2 | 2：2，1．2 | －${ }^{\text {ou }}$ |
| Ex－158\＄ | 23.2 | 2：4，1．2 | боцикр－ |
| Ex－158\＄ | 26.2 | 2：6，1．2 | tıc |
| Ex－158\＄ | 27.1 | 2：7，1．1 | ${ }^{\top}$ oult |
| Ex－158\＄ | 28.1 | 2：8，1．1 | ${ }^{\prime} \tau \omega \gamma \alpha \rho$ |
| Ex－158\＄ | 29.2 | 2：8，2．2 | ${ }^{\circ}{ }^{\text {oult }}$ |
| Ex－158\＄ | 30.2 | 2：9，1．2 | $\chi \omega \rho \stackrel{\text { ¢ }}{ }$ ө́ou |
| Ex－158\＄ | 32.2 | 2：14，1．2 | $\pi \alpha \theta \eta \mu \alpha \tau \omega \nu$ |
| Ex－158\＄ | 33.2 | 2：17，1．2 | $\tau \alpha \iota \varsigma-\tau \iota \alpha \iota \varsigma$ |
| Ex－158\＄ | 34.2 | 3：2，1．2 | ${ }^{\circ}$ онıт |
| Ex－158\＄ | 35.1 | 3：3，1．1 | ${ }^{\text {Soutac }}$ סoక̧ทs ${ }^{\text {T }}$ |
| Ex－158\＄ | 36.2 | 3：4，1．2 | $\tau \alpha$ |
| Ex－158\＄ | 38.1 | 3：6，2．1 | ${ }^{\text {ER }}$ ¢ $\alpha \nu \pi \epsilon \rho$ |
| Ex－158\＄ | 39.1 | 3：6，3．1 | ${ }^{\top}$ оцıг |
| Ex－158\＄ | 41.2 | 3：9，2．2 |  |
| Ex－158\＄ | 42.2 | 3：10，1．2 | єкєьนך |
| Ex－158\＄ | 43.2 | 3：10，2．2 | $\epsilon \nu \tau \eta \kappa \alpha \rho \delta . \alpha \nu \tau \omega \nu$ ，$\delta$ เо |
| Ex－158\＄ | 44.2 | 3：13，1．2 | －$\lambda \in \sigma \alpha \tau \epsilon$ |
| Ex－158\＄ | 45.2 | 3：13，2．2 | к $\alpha \lambda \epsilon \tau \tau \epsilon$ |
| Ex－158\＄ | 46.2 | 3：13，3．2 | 21 |
| Ex－158\＄ | 47.2 | 3：14，1．2 | utoot．$\alpha$ utou |
| Ex－158\＄ | 48.2 | 3：17，1．2 | к $\alpha \downarrow$ |
| Ex－158\＄ | 54.2 | 4：3，1．2 | $-\chi \omega \mu \in \theta \alpha$ |
| Ex－158\＄ | 56.2 | 4：3，3．2 | ${ }^{\circ}{ }^{\circ}{ }^{\text {¢ }}$ ¢ $\tau$ |
| Ex－158\＄ | 57.2 | 4：3，4．2 | ${ }^{\circ}{ }^{\circ} \mathrm{o} \mathrm{\mu L} \mathrm{\tau}$ |
| Ex－158\＄ | 58.2 | 4：4，1．2 | ${ }^{\circ}{ }^{\circ} \mathrm{o} \mathrm{\mu L} \mathrm{\tau}$ |
| Ex－158\＄ | 59.2 | 4：5，1．2 | ぞ |
| Ex－158\＄ | 61.2 | 4：7，1．2 | －$\rho \eta \kappa \in \nu$ |
| Ex－158\＄ | 62.2 | 4：8，1．2 | $\alpha \rho \alpha$ |
| Ex－158\＄ | 64.2 | 4：12，1．2 | єvap ${ }^{\text {ch }}$ |
| Ex－158\＄ | 65.2 | 4：12，2．2 | $\sigma \omega \mu \alpha \tau о \varsigma$ |
| Ex－158\＄ | 66.2 | 4：16，1．2 | ${ }^{\circ}{ }^{\circ}{ }^{\circ} \mathrm{OL} \mathrm{\tau}$ |
| Ex－158\＄ | 67.2 | 5：1，1．2 | ${ }^{\circ}{ }^{\circ} \mathrm{out} \mathrm{\tau}$ |
| Ex－158\＄ | 69.1 | 5：3，2．1 | 「aủtou |
| Ex－158\＄ | 70.2 | 5：3，3．2 | viep |
| Ex－158\＄ | 71.2 | 5：4，1．2 | ${ }^{\square}$ онıг |
| Ex－158\＄ | 73.2 | 5：6，1．2 | $\epsilon L$ |

Appendix G：
Places Where Variants Initiated

| Ex－158\＄ | 74.2 | 5：11，1．2 | ${ }^{\circ}$ оиı七 |
| :---: | :---: | :---: | :---: |
| Ex－158\＄ | 79.2 | 6：2，1．2 | $\delta \iota \delta \alpha \chi \eta \nu$ |
| Ex－158\＄ | 80.2 | 6：2，2．2 | ${ }^{\circ}{ }^{\circ} \mu \boldsymbol{\sim} \tau$ |
| Ex－158\＄ | 82.2 | 6：9，1．2 | $\alpha \delta \in \lambda \phi$ о |
| Ex－158\＄ | 84.2 | 6：10，2．2 | $\eta \nu$ |
| Ex－158\＄ | 85.2 | 6：11，1．2 | $\pi \iota \sigma \tau \in \omega \varsigma$ |
| Ex－158\＄ | 87.2 | 6：16，1．2 | $\mu \in \nu$ |
| Ex－158\＄ | 88.2 | 6：17，1．2 | －$\tau \epsilon \rho \omega \varsigma$ |
| Ex－158\＄ | 89.2 | 6：17，2．2 | 21 |
| Ex－158\＄ | 92.2 | 6：18，1．2 | ${ }^{\circ}{ }^{\circ} \mu \mu \tau$ |
| Ex－158\＄ | 93.2 | 6：19，1．2 | $\epsilon \chi \omega \mu \in \nu$ |
| Ex－158\＄ | 96.2 | 7：2，1．2 | $\pi \alpha \nu \tau 0 \varsigma$ |
| Ex－158\＄ | 97.2 | 7：4，1．2 | ${ }^{\circ}$ о ${ }^{\text {¢ }}$ ¢ $\tau$ |
| Ex－158\＄ | 98.1 | 7：6，1．1 | ${ }^{\top}$ о $\mu$ ¢ $\tau$ |
| Ex－158\＄ | 99.2 | 7：6，2．2 | －$\gamma \eta \sigma \in \nu$ |
| Ex－158\＄ | 100.2 | 7：9，1．2 | ${ }^{*}$ \euls |
| Ex－158\＄ | 101.1 | 7：10，1．1 | ${ }^{\top}$ out $\tau$ |
| Ex－158\＄ | 102.2 | 7：11，1．2 | ${ }^{\circ}$ о ${ }^{\text {¢ }}$ ¢ $\tau$ |
| Ex－158\＄ | 103.3 | 7：11，2．3 | $\alpha \cup \tau \eta \nu$ |
| Ex－158\＄ | 105.2 | 7：13，1．2 | －$\epsilon \chi \chi \in \nu$ |
| Ex－158\＄ | 106.2 | 7：13，2．2 | －$\epsilon \chi \chi \in \nu$ |
| Ex－158\＄ | 107.2 | 7：14，1．2 | İбous |
| Ex－158\＄ | 108.2 | 7：14，2．2 | 1－3 54 |
| Ex－158\＄ | 110.2 | 7：17，1．2 | －$\rho \in L$ |
| Ex－158\＄ | 111.2 | 7：17，2．2 | $\epsilon \mathrm{L}$ |
| Ex－158\＄ | 112.2 | 7：18，1．2 | ${ }^{\circ} \mathrm{o} \mu \tau \tau$ |
| Ex－158\＄ | 113.2 | 7：21，1．2 | $\epsilon \mathrm{L}$ |
| Ex－158\＄ | 116.1 | 7：22，2．1 | ${ }^{\circ} \mathrm{K} \alpha \iota$ |
| Ex－158\＄ | 118.1 | 7：26，1．1 | ${ }^{\circ} \mathrm{K} \alpha \iota$ |
| Ex－158\＄ | 119.3 | 7：27，1．3 | ol $\downarrow \in \rho \in ⿺ 𠃊 ⿳ 亠 丷 厂 彡$ |
| Ex－158\＄ | 120.2 | 7：27，2．2 | $\theta$ טбı $\alpha \nu$ |
| Ex－158\＄ | 122.2 | 7：28，1．2 | $\iota \in \rho \in \iota \bar{\square}$ |
| Ex－158\＄ | 123.2 | 8：1，1．2 | $\epsilon \nu$ |
| Ex－158\＄ | 124.2 | 8：1，2．2 | u४ๆ入oıs |
| Ex－158\＄ | 125.1 | 8：2，1．1 | ${ }^{\text {T}}$ о $\mu \mathrm{L} \tau$ |
| Ex－158\＄ | 128.2 | 8：4，3．2 | тov |
| Ex－158\＄ | 130.1 | 8：6，2．1 | ${ }^{*} \tau \in \tau \cup \chi \in \nu$ |
| Ex－158\＄ | 131.2 | 8：6，3．2 | ${ }^{\circ} \mathrm{o} \mathrm{\mu} \mathrm{\nu} \mathrm{\tau}$ |
| Ex－158\＄ | 133.2 | 8：8，1．2 | $\alpha$ טtoıs |
| Ex－158\＄ | 134.2 | 8：9，1．2 | －paıs |

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| Ex-158\$ | 135.2 | 8:10,1.2 | $\mu \mathrm{ov}$ |
| :---: | :---: | :---: | :---: |
| Ex-158\$ | 136.2 | 8:10,2.2 | $-\delta \iota \alpha \nu$ |
| Ex-158\$ | 137.2 | 8:10,3.2 | $\gamma \rho \alpha \psi \omega$ |
| Ex-158\$ | 139.2 | 8:11,2.2 | ${ }^{\circ}$ о $\mu \tau \tau$ |
| Ex-158\$ | 140.2 | 8:11,3.2 | $\alpha \cup \tau \omega \nu$ |
| Ex-158\$ | 144.2 | 9:2,1.2 |  |
| Ex-158\$ | 146.2 | 9:3,1.2 | $\tau \alpha \alpha \gamma \iota \alpha \tau \omega \nu \alpha \gamma \iota \omega \nu$ |
| Ex-158\$ | 147.2 | 9:4,1.2 | є $\chi$ оuб $\alpha$ |
| Ex-158\$ | 148.2 | 9:4,2.2 | ${ }^{\circ}{ }^{\circ} \mathrm{\mu}$ ¢ $\tau$ |
| Ex-158\$ | 150.2 | 9:9,2.2 | ov |
| Ex-158\$ | 151.2 | 9:10,1.2 | $\kappa \alpha \iota \quad \delta \iota \kappa-\mu \alpha \tau \alpha$ |
| Ex-158\$ | 152.1 | 9:11,1.1 | $\ulcorner\gamma \in \nu о \mu \in \nu \omega \nu$ |
| Ex-158\$ | 155.1 | 9:14,2.1 | ${ }^{\circ} \eta \mu \omega \nu$ |
| Ex-158\$ | 156.2 | 9:14,3.2 | $\kappa \alpha \iota \alpha \lambda \eta \theta \iota \nu \omega$ |
| Ex-158\$ | 157.2 | 9:17,1.2 | $\mu \eta$ тотє |
| Ex-158\$ | 158.2 | 9:19,1.2 | $\tau \eta \varsigma$ |
| Ex-158\$ | 160.2 | 9:19,3.2 | 1 |
| Ex-158\$ | 161.2 | 9:25,1.2 | $\tau \omega \nu \alpha \gamma \iota \omega \nu$ |
| Ex-158\$ | 162.2 | 9:26,1.2 | $\alpha \pi 0 \theta \alpha \nu \in L \nu$ |
| Ex-158\$ | 164.2 | 9:28,1.2 | $\delta \iota \alpha \pi \iota \sigma \tau \in \omega \varsigma$ |
| Ex-158\$ | 165.2 | 10:1,1.2 | ouk $\alpha \cup \tau \omega \nu$ |
| Ex-158\$ | 166.2 | 10:1,2.2 | $\alpha \cup \tau \omega \nu$ |
| Ex-158\$ | 167.2 | 10:1,3.2 | $\alpha \iota \varsigma$ |
| Ex-158\$ | 169.3 | 10:2,1.3 | к $\alpha \nu$ |
| Ex-158\$ | 170.2 | 10:4,1.2 | 21 |
| Ex-158\$ | 171.2 | 10:4,2.2 | $\alpha \phi \in \lambda \in L \nu$ |
| Ex-158\$ | 172.2 | 10:6,1.2 | $-\mu \alpha$ |
| Ex-158\$ | 173.2 | 10:7,1.2 | $\gamma \alpha \rho$ |
| Ex-158\$ | 175.2 | 10:8,2.2 | тоv |
| Ex-158\$ | 179.2 | 10:11,1.2 | $\alpha \rho \chi L \epsilon-$ |
| Ex-158\$ | 180.2 | 10:11,2.2 | -ı $\alpha \nu$ |
| Ex-158\$ | 182.2 | 10:12,2.2 | $\epsilon \kappa \delta \epsilon \xi \iota \omega \nu$ |
| Ex-158\$ | 183.2 | 10:13,1.2 | ${ }^{\circ}$ о $\mu \tau \tau$ |
| Ex-158\$ | 184.2 | 10:14,1.2 |  |
| Ex-158\$ | 185.2 | 10:15,1.2 | $\pi \rho о є\llcorner\rho-$ |
| Ex-158\$ | 188.2 | 10:17,1.2 |  |
| Ex-158\$ | 190.2 | 10:17,3.2 | $\mu \nu \eta \sigma \theta \omega$ |
| Ex-158\$ | 191.2 | 10:18,1.2 | ${ }^{\circ} \mathrm{o} \mathrm{\mu} \mathrm{\iota} \mathrm{\tau}$ |
| Ex-158\$ | 192.2 | 10:22,1.2 | - $\chi$ о $\mu \in \theta \alpha$ |
| Ex-158\$ | 194.2 | 10:24,1.2 | $\epsilon \kappa$ - $\quad$ OU |

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| Ex－158\＄ | 195.2 | 10：25，1．2 | $\kappa \alpha \tau \alpha \lambda-$ |
| :---: | :---: | :---: | :---: |
| Ex－158\＄ | 197.2 | 10：26，1．2 | ${ }^{\circ}$ о $\mu \tau \tau$ |
| Ex－158\＄ | 198.2 | 10：26，2．2 | $\alpha \mu \alpha \rho \tau \iota \alpha \varsigma$ |
| Ex－158\＄ | 199.2 | 10：26，3．2 | $\kappa \alpha \tau \alpha \lambda-$ |
| Ex－158\＄ | 201.2 | 10：29，1．2 | $\kappa \alpha \tau \alpha \xi-$ |
| Ex－158\＄ | 202.2 | 10：29，2．2 | кんı $\downarrow \eta$ ¢ |
| Ex－158\＄ | 206.2 | 10：30，3．2 | 21 |
| Ex－158\＄ | 207.2 | 10：32，1．2 | $\eta \mu . \nu \mu \omega \nu$ |
| Ex－158\＄ | 210.2 | 10：34，2．2 | єגutols |
| Ex－158\＄ | 212.2 | 10：37，1．2 | ${ }^{\circ}$ о $\mu \tau$ |
| Ex－158\＄ | 213.3 | 10：38，1．3 | 231 |
| Ex－158\＄ | 214.2 | 10：38，2．2 | 21 |
| Ex－158\＄ | 215.2 | 11：1，1．2 | $\pi \rho \alpha \gamma \mu . \alpha \pi 0 \sigma \tau \alpha \sigma \iota \varsigma$ |
| Ex－158\＄ | 216.2 | 11：2，1．2 | $\alpha \cup \tau \eta$ |
| Ex－158\＄ | 218.2 | 11：4，1．2 | ${ }^{\square}$ оцเ七 |
| Ex－158\＄ | 221.2 | 11：5，1．2 | $\alpha$ บтou |
| Ex－158\＄ | 222.2 | 11：6，1．2 | ${ }^{\circ}$ оцเ七 |
| Ex－158\＄ | 223.2 | 11：6，2．2 | $\zeta \eta \tau-$ |
| Ex－158\＄ | 224.2 | 11：8，1．2 | o |
| Ex－158\＄ | 226.3 | 11：11，1．3 | $\alpha \cup \tau . \Sigma$ ．$\sigma \tau \in\llcorner\rho \alpha$ ou $\alpha$ 人 |
| Ex－158\＄ | 227.2 | 11：11，2．2 | $\epsilon \iota \zeta$ тo $\tau \in \kappa \nu \omega \sigma \alpha \iota$ |
| Ex－158\＄ | 228.2 | 11：11，3．2 | $\epsilon \tau \in K \in \nu$ |
| Ex－158\＄ | 230.2 | 11：12，2．2 | ${ }^{\square} \mathrm{o} \mathrm{\mu L} \mathrm{\tau}$ |
| Ex－158\＄ | 232.2 | 11：13，2．2 | $\kappa \alpha \downarrow \pi \in\llcorner\sigma \theta \in \nu \tau \in \zeta$ |
| Ex－158\＄ | 233.2 | 11：14，1．2 | $\zeta \eta \tau-$ |
| Ex－158\＄ | 234.3 | 11：15，1．3 |  |
| Ex－158\＄ | 235.2 | 11：15，2．2 | $\epsilon \xi \eta \lambda$ Oov |
| Ex－158\＄ | 236.2 | 11：17，1．2 | 145 |
| Ex－158\＄ | 237.2 | 11：19，1．2 | －$\alpha \alpha \iota$ |
| Ex－158\＄ | 238.3 | 11：19，2．3 | $\delta \cup \nu \alpha \tau \alpha \iota$ |
| Ex－158\＄ | 239.2 | 11：20，1．2 | ${ }^{\circ}$ oult |
| Ex－158\＄ | 240.2 | 11：23，1．2 |  $\kappa \alpha \tau \alpha \nu \circ \omega \nu \tau \eta \nu \tau \alpha \pi \epsilon \iota \nu \omega \sigma \iota \nu \tau \omega \nu \alpha \delta \in \lambda \phi \omega \nu \alpha \nu \tau \circ \nu$ |
| Ex－158\＄ | 243.2 | 11：31，1．2 | $\epsilon \pi \nu \lambda \in \gamma о \mu \in \nu \eta$ |
| Ex－158\＄ | 244.2 | 11：31，2．2 | $\alpha \pi \iota \sigma \tau \eta \sigma \alpha \sigma \iota \nu$ |
| Ex－158\＄ | 246.2 | 11：32，2．2 | $\tau \in \kappa \alpha \iota \Sigma$ ．$\kappa \alpha \iota$ |
| Ex－158\＄ | 247.2 | 11：33，1．2 | $\beta \alpha \sigma \iota \lambda \in L \zeta$ |
| Ex－158\＄ | 248.1 | 11：34，1．1 | 「є̇ $\delta u \nu \alpha \mu \omega \theta \eta \sigma \alpha \nu$ |
| Ex－158\＄ | 250.1 | 11：37，1．1 |  |
| Ex－158\＄ | 251.2 | 11：38，1．2 | $\epsilon \nu$ |
| Ex－158\＄ | 252.2 | 11：39，1．2 | ${ }^{\circ} \mathrm{o} \mathrm{\mu L} \mathrm{\tau}$ |

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| Ex－158\＄ | 253.2 | 11：39，2．2 | $\tau \alpha \varsigma-\mathrm{l} \alpha \varsigma$ |
| :---: | :---: | :---: | :---: |
| Ex－158\＄ | 254.2 | 11：40，1．2 | $\pi \rho о \sigma \beta \lambda \in \psi \alpha \mu \in \nu$ оu |
| Ex－158\＄ | 255.2 | 12：1，1．2 | тп入ıкоитоข |
| Ex－158\＄ | 256.2 | 12：1，2．2 |  |
| Ex－158\＄ | 257.2 | 12：2，1．2 | тov |
| Ex－158\＄ | 258.2 | 12：2，2．2 | $\epsilon \kappa \alpha \theta\llcorner\sigma \in \nu$ |
| Ex－158\＄ | 259.2 | 12：3，1．2 | ${ }^{\circ} \mathrm{o} \mathrm{\mu} \mathrm{\iota} \mathrm{\tau}$ |
| Ex－158\＄ | 260.1 | 12：3，2．1 | ${ }^{\text {¢ }}$ ¢ ${ }^{\text {a }}$－ |
| Ex－158\＄ | 261.2 | 12：3，3．2 | ${ }^{\circ} \mathrm{o} \mu \tau \tau$ |
| Ex－158\＄ | 262.2 | 12：3，4．2 | $\epsilon \kappa \lambda \in \lambda \cup \mu \epsilon \nu \circ\llcorner$ |
| Ex－158\＄ | 263.2 | 12：4，1．2 | $\gamma \alpha \rho$ |
| Ex－158\＄ | 264.2 | 12：4，2．2 | $\alpha \gamma \omega \nu-$ |
| Ex－158\＄ | 265.2 | 12：5，1．2 | ${ }^{\circ}{ }^{\circ} \mu \boldsymbol{\sim}$ |
| Ex－158\＄ | 266.2 | 12：5，2．2 | $\kappa \alpha\llcorner\mu \eta$ |
| Ex－158\＄ | 267.2 | 12：7，1．2 | $\epsilon \mathrm{L}$ |
| Ex－158\＄ | 268.1 | 12：7，2．1 | ${ }^{\top}$ out $\tau$ |
| Ex－158\＄ | 269.1 | 12：9，1．1 | ${ }^{\circ} \delta \epsilon$ |
| Ex－158\＄ | 271.2 | 12：11，1．2 | ${ }^{*} \mu \in \nu$ |
| Ex－158\＄ | 272.1 | 12：13，1．1 | 「тоLєLte |
| Ex－158\＄ | 273.2 | 12：15，1．2 |  |
| Ex－158\＄ | 276.2 | 12：16，1．2 | $\tau \alpha \varsigma-\kappa \in L \alpha \varsigma$ |
| Ex－158\＄ | 277.1 | 12：16，2．1 | ${ }^{\text {¢ }}$ ¢ 人utou |
| Ex－158\＄ | 280.2 | 12：19，1．2 | ${ }^{\circ}$ о $\mu \tau \tau$ |
| Ex－158\＄ | 283.2 | 12：21，1．2 | єк $\tau \rho-$ |
| Ex－158\＄ | 287.2 | 12：23，2．2 | －$\mu \alpha \tau \iota$ |
| Ex－158\＄ | 288.2 | 12：23，3．2 | ठ＜к．$\tau \in \theta \in \mu \in \lambda \iota \omega \mu \in \nu \omega \nu$ |
| Ex－158\＄ | 289.2 | 12：24，1．2 | －$\tau \tau 0 \nu \alpha$ |
| Ex－158\＄ | 290.2 | 12：24，2．2 | тo |
| Ex－158\＄ | 293.2 | 12：25，3．2 | －vou |
| Ex－158\＄ | 294.2 | 12：26，1．2 | $\sigma \in\llcorner\omega$ |
| Ex－158\＄ | 297.2 | 12：28，2．2 | －$ө$ ¢б $\omega \mu \epsilon \nu$ |
| Ex－158\＄ | 298.4 | 12：28，3．4 | $\epsilon \cup \lambda . \kappa$ ．$\alpha\llcorner\delta$ ． |
| Ex－158\＄ | 300.2 | 13：4，1．2 | $\delta \epsilon$ |
| Ex－158\＄ | 301.2 | 13：5，1．2 | －$\mu \in \nu$ оऽ |
| Ex－158\＄ | 302.1 | 13：5，2．1 | ${ }^{\text {F＇}}$ ¢ $\gamma \kappa \alpha \tau \alpha \lambda \iota \pi \omega$ |
| Ex－158\＄ | 306.2 | 13：9，1．2 | $\pi \epsilon \rho\llcorner\phi$－ |
| Ex－158\＄ | 307.1 | 13：9，2．1 |  |
| Ex－158\＄ | 308.2 | 13：10，1．2 | ${ }^{\circ}$ о $\mu \tau \tau$ |
| Ex－158\＄ | 309.2 | 13：12，1．2 | $\pi \alpha \rho \epsilon \mu \beta$ о $\eta \eta$ ¢ |
| Ex－158\＄ | 310.2 | 13：15，1．2 | 12 |

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| Ex-158\$ | 311.2 | 13:16,1.2 | тๆऽ |
| :---: | :---: | :---: | :---: |
| Ex-158\$ | 314.2 | 13:20,1.2 | Xpıotov |
| Ex-158\$ | 318.2 | 13:21,4.2 | ${ }^{\square}$ оиı $\tau$ |
| Ex-158\$ | 320.2 | 13:23,1.2 | ${ }^{\circ}$ о $\mu \tau \tau$ |
| Ex-158\$ | 321.2 | 13:24,1.2 | ${ }^{\circ}$ out |
| Ex-158\$ | 323.1 | 13:25,2.1 | ${ }^{\top}$ out $\tau$ |
| $\begin{gathered} \hline \text { Total for Ex-158\$ = } \\ 214 \\ \hline \end{gathered}$ |  |  |  |
|  |  |  |  |
| Ex-159\$ | 28.3 | 2:8,1.3 | 1 |
| Ex-159\$ | 41.3 | 3:9,2.3 | , $\epsilon \delta . \mu \epsilon$ |
| Ex-159\$ | 52.2 | 4:2,1.2 |  |
| Ex-159\$ | 53.2 | 4:2,2.2 | $\tau \omega \nu \alpha \kappa о \cup \sigma \alpha \nu \tau \omega \nu$ |
| Ex-159\$ | 55.2 | 4:3,2.2 | ouv |
| Ex-159\$ | 59.3 | 4:5,1.3 | - |
| Ex-159\$ | 61.3 | 4:7,1.3 | $\epsilon \iota \rho \eta \tau \alpha \iota$ |
| Ex-159\$ | 68.2 | 5:3,1.2 | $\delta \iota \alpha \tau \alpha \cup \tau \eta \nu$ |
| Ex-159\$ | 76.3 | 5:12,2.3 | - |
| Ex-159\$ | 81.2 | 6:3,1.2 | - $\sigma \omega \mu \in \nu$ |
| Ex-159\$ | 82.3 | 6:9,1.3 | $\alpha \gamma \alpha \pi . \alpha \delta$. |
| Ex-159\$ | 83.2 | 6:10,1.2 | tou котои |
| Ex-159\$ | 86.4 | 6:14,1.4 | ор $\tau \omega \varsigma \delta \eta$ |
| Ex-159\$ | 96.3 | 7:2,1.3 | $\pi \alpha \nu \tau 0 \varsigma \alpha \nu \tau \omega$ |
| Ex-159\$ | 106.3 | 7:13,2.3 | $\mu \in \tau \in \sigma \chi \in \nu$ |
| Ex-159\$ | 108.3 | 7:14,2.3 | 12435 |
| Ex-159\$ | 109.2 | 7:16,1.2 | -ıкп¢ |
| Ex-159\$ | 120.3 | 7:27,2.3 | - |
| Ex-159\$ | 127.2 | 8:4,2.2 | $\tau \omega \nu \quad \tau \in \rho \in \omega \nu$ |
| Ex-159\$ | 130.2 | 8:6,2.2 | $\tau \in \tau \in \cup \chi \in \nu$ |
| Ex-159\$ | 141.2 | 8:12,1.2 | к. $\tau . \alpha \mu . \alpha \nu \tau . \kappa \alpha \iota \tau \omega \nu \alpha \nu 0 \mu \iota \omega \nu \alpha \nu \tau \omega \nu$ |
| Ex-159\$ | 143.2 | 9:1,2.2 | бкп $\eta$ |
| Ex-159\$ | 145.3 | 9:2,2.3 | $\tau \alpha \alpha \gamma\llcorner\alpha$ |
| Ex-159\$ | 146.3 | 9:3,1.3 | $\alpha \gamma . \tau \omega \nu \alpha \gamma \iota \omega \nu$ |
| Ex-159\$ | 151.3 | 9:10,1.3 | $\kappa \alpha \iota$ ठเк- $\mu \alpha \sigma \iota \nu$ |
| Ex-159\$ | 154.2 | 9:14,1.2 | $\alpha \gamma$ ıov |
| Ex-159\$ | 160.3 | 9:19,3.3 | 4231 |
| Ex-159\$ | 165.4 | 10:1,1.4 | K $\alpha$ L |
| Ex-159\$ | 167.3 | 10:1,3.3 | - |
| Ex-159\$ | 169.4 | 10:2,1.4 | $\alpha \nu$ |
| Ex-159\$ | 188.3 | 10:17,1.3 | тотє $\epsilon\llcorner\rho \eta \kappa \in \nu$ |
| Ex-159\$ | 204.2 | 10:30,1.2 | $\lambda \in \gamma \in \mathrm{L}$ кuplos |

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| Ex-163\$ | 163.2 | 9:26,2.2 | 2 |
| :---: | :---: | :---: | :---: |
| Ex-163\$ | 176.2 | 10:9,1.2 | , о $\theta \in \mathrm{o}$, |
| Ex-163\$ | 186.2 | 10:16,1.2 | $\delta \epsilon$ |
| Ex-163\$ | 189.2 | 10:17,2.2 | ${ }^{\circ} \mathrm{o} \mathrm{\mu} \mathrm{\iota} \mathrm{\tau}$ |
| Ex-163\$ | 205.2 | 10:30,2.2 | oธı |
| Ex-163\$ | 209.4 | 10:34,1.4 | - $\mu$ оıऽ $\alpha \cup \tau \omega \nu$ |
| Ex-163\$ | 211.2 | 10:34,3.2 | $\epsilon \nu$ oupavols |
| Ex-163\$ | 213.2 | 10:38,1.2 | 23 |
| Ex-163\$ | 226.1 | 11:11,1.1 |  |
| Ex-163\$ | 229.2 | 11:12,1.2 | ${ }^{*} \epsilon \gamma \epsilon \nu \eta \theta \eta \sigma \alpha \sim \nu$ |
| Ex-163\$ | 260.2 | 12:3,2.2 | $\alpha$ тоข |
| Ex-163\$ | 291.2 | 12:25,1.2 | $\epsilon$ єиүо ${ }^{\text {¢ }}$ |
| Ex-163\$ | 315.2 | 13:21,1.2 | $\epsilon \rho \gamma \omega$ |
| Ex-163\$ | 316.4 | 13:21,2.4 | $\alpha$ บтos |
| Total for Ex-163\$ = 29 |  |  |  |
|  |  |  |  |
| Ex-164\$ | 209.3 | 10:34,1.3 | - $\quad$ оıऽ $\mu$ оv |
| Ex-164\$ | 316.2 | 13:21,2.2 | $\alpha \cup \tau \omega$ |
| Total for Ex-164\$ = 2 |  |  |  |

## Appendix H

Every Place Where a Variant is Initiated
in the Textual History of 2 Corinthians Arranged in Order by Reference

This appendix lists every place a variant is introduced into the textual history of 2 Corinthians 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:

| 2.1 | $1: 2,1.1$ | Autograph; |
| :---: | :---: | :---: |

(1) 2.1 refers to the first variant in variation unit 2.
(2) $1: 2,1.1$ is the reference where this place of variation occurs: chapter 1 , verse 2 , the first place of variation in this verse, the first 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:
8.2 1:3,4.2 $\quad\left[01^{\wedge} 2\right]<3>;[H 015 * \%]<2>;[E x-145]<2>;$ Ex-156\#<1>;
(1) 8.2 refers to the second variant in variation unit 8.
(2) 1:3,4.2 is the reference where this place of variation occurs: chapter 1 , verse 3 , the fourth place of variation in this verse, the second variant there.
(3) The variant was first initiated in exemplar Ex-156\#, and subsequently initiated by mixture in $\left[01^{\wedge} 2\right]<3>;[\mathrm{H} 015 * \%]<2>;[\mathrm{Ex}-145]<2>$.

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 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 12 \%\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;[\mathrm{vg} \wedge \mathrm{~b}]<4>;[\mathrm{it}-\mathrm{ar}]<5>;[\mathrm{it}-\mathrm{t} \%]<3>;[\mathrm{it}-\mathrm{v} \%]<3>;} \\ & {\left[\mathrm{sy}{ }^{\wedge} \mathrm{p} \%\right]<3>;\left[\mathrm{Cl} l^{\wedge} \mathrm{lat} \%\right]<2>; \text { Ex-158\$<1>; }} \end{aligned}$ |
| 2.1 | 1:2,1.1 | Autograph; |
| 2.2 | 1:2,1.2 | $\begin{aligned} & {[1505 * \%]<2>;[\mathrm{TR}]<5>;[\mathrm{it}-\mathrm{ar}]<5>;[\text { it-b* }]<2>;[\text { it-d }]<3>;[\text { it-t } \%]<3>;[\text { Ex-154] }<3>;} \\ & {[\text { Ex- } 158 \$]<1>; \text { Ex-163\$<1>; }} \end{aligned}$ |
| 3.1 | 1:2,2.1 | Autograph; |
| 3.2 | 1:2,2.2 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; [0150]<7>; [sa^b\% $]<2>$; Ex-158\$ $<1>$; |
| 4.1 | 1:2,3.1 | [D06^2]<5>; [1^249]<5>; [Ex-147]<3>; Autograph; |
| 4.2 | 1:2,3.2 | $\begin{aligned} & {\left[1739^{*}\right]<5>;\left[\mathrm{vg}^{\wedge} \mathrm{b}\right]<4>;[\mathrm{it}-\mathrm{ar}]<5>;\left[\mathrm{it}-\mathrm{b}^{*}\right]<2>;[\text { Ex-156\#]<1>; [Ex-158\$]<1>; Ex- }} \\ & 163 \$<1>; \end{aligned}$ |
| 5.1 | 1:3,1.1 | Autograph; |
| 5.2 | 1:3,1.2 | [ $\mathrm{B}^{*} \%$ ]<3>; [ $\left.\mathrm{B}^{\wedge} 2 \%\right]<2>$; Ex-158\$<1>; |
| 6.1 | 1:3,2.1 | [1881^c]<4>; Autograph; |
| 6.2 | 1:3,2.2 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>$; [6]<7>; [Ex-153]<2>; Ex-158\$<1>; |
| 7.1 | 1:3,3.1 | [D06^1\%]<4>; [1^249]<5>; [Ex-154]<3>; Autograph; |
| 7.2 | 1:3,3.2 | $\begin{aligned} & \hline\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{D} 06^{*}\right]<2>;\left[0278^{*} \%\right]<2>;\left[0278^{\wedge} \mathrm{c} \%\right]<2>;[365 \%]<2>;\left[1505^{*} \%\right]<2>; \\ & {\left[\mathrm{vg}^{\wedge} \mathrm{b}\right]<4>;[\text { it-ar }]<5>;\left[\mathrm{it}-\mathrm{b}^{*}\right]<2>;[\mathrm{sa} \mathrm{a} \%]<2>;[\mathrm{sa} \mathrm{~b} \%]<2>;\left[\mathrm{bo}{ }^{\wedge} \mathrm{b} \%\right]<2>;[\text { Ex- }} \\ & 156 \#]<1>;[\text { Ex-158\$]<1>; Ex-163\$<1>; } \end{aligned}$ |
| 8.1 | 1:3,4.1 | [6]<7>; [1^249]<5>; [Ex-143]<4>; [Ex-147]<3>; Autograph; |
| 8.2 | 1:3,4.2 | [01^2]<3>; [H015*\%]<2>; [Ex-145]<2>; Ex-156\#<1>; |
| 9.1 | 1:4,1.1 | Autograph; |
| 9.2 | 1:4,1.2 | $\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; $\left.\mathrm{B}^{*} \%\right]<3>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>$; Ex-158\$<1>; |
| 10.1 | 1:7,1.1 | Autograph; |
| 10.2 | 1:7,1.2 | D06*<2>; |
| 11.1 | 1:7,2.1 | Autograph; |
| 11.2 | 1:7,2.2 | $\begin{aligned} & {\left[\mathrm{D} 06^{*}\right]<2>;\left[\mathrm{D} 06^{\wedge} \mathrm{c} \%\right]<4>;\left[\mathrm{D} 06^{\wedge} 1 \%\right]<4>;\left[\mathrm{D} 06^{\wedge} 2\right]<5>;[326]<4>;[2464 * \%]<2>;} \\ & {\left[\mathrm{sy}^{\wedge} \mathrm{p} \%\right]<3>; \mathrm{Ex}-158 \$<1>;} \end{aligned}$ |
| 12.1 | 1:8,1.1 | Autograph; |
| 12.2 | 1:8,1.2 | [ $\left.\mathrm{B}^{*} \%\right]<3>;\left[\mathrm{B} \wedge\right.$ c\%] $<2>;\left[\mathrm{vg}^{\wedge} \mathrm{b}\right]<4>;[\mathrm{it}-\mathrm{t} \mathrm{\%}]<3>;[$ Ex-145]<2>; Ex-158\$<1>; |
| 13.1 | 1:8,2.1 | [Ex-147]<3>; Autograph; |
| 13.2 | 1:8,2.2 | [0278*\%]<2>; [0278^ c\%]<2>; [vg^cl]<5>; [it-t\%]<3>; Ex-156\#<1>; |
| 14.1 | 1:8,3.1 | [ $\left.\mathrm{P}^{\wedge} 46 *\right]<2>$; $\left.\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>$; [Ex-147]<3>; Autograph; |
| 14.2 | 1:8,3.2 | [D06*]<2>; [0278*\%]<2>; [0278^c\%]<2>; Ex-156\#<1>; |
| 14.3 | 1:8,3.3 | 01*<3>; |
| 15.1 | 1:8,4.1 | [Ex-136]<3>; Autograph; |
| 15.2 | 1:8,4.2 | $\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; [ $\left.\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;[\mathrm{Ex}-142]<2>;$ Ex-158\$<1>; |
| 16.1 | 1:9,1.1 | [ $\left.\mathrm{B}^{*} \%\right]<3>$; [NA-27]<2>; Autograph; |
| 16.2 | 1:9,1.2 | D06*<2>; |
| 16.3 | 1:9,1.3 | [ $\left.\mathrm{Or}^{\wedge} \mathrm{a} \%\right]<2>$; [Or^ $\left.\mathrm{b} \%\right]<2>$; [Ex-152\#] $<1>$; [Ex-158\$]<1>; Ex-163\$<1>; |
| 17.1 | 1:11,1.1 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{D} 06^{*}\right]<2>;\left[0278^{*} \%\right]<2>;\left[0278^{\wedge} \mathrm{c} \%\right]<2>;\left[104^{*} \%\right]<3>\text {; }} \\ & \text { Autograph; } \end{aligned}$ |
| 17.2 | 1:11,1.2 | [D06^2]<5>; [0243*\%]<5>; [0243^c\%] ${ }^{\text {c }}$ (5>; [Ex-141]<4>; Ex-151\#<1>; |


| 18.1 | 1:12,1.1 | Autograph; |
| :---: | :---: | :---: |
| 18.2 | 1:12,1.2 | $\begin{aligned} & {[01 *]<3>;\left[\mathrm{D} 06^{*}\right]<2>;\left[\operatorname{vg}^{\wedge} \mathrm{cl}\right]<5>;\left[\operatorname{vg}^{\wedge} \mathrm{ww}\right]<5>;[\mathrm{it}-\mathrm{t} \%]<3>;[\text { Ath\% }]<2>; \text { Ex- }} \\ & 158 \$<1>; \end{aligned}$ |
| 19.1 | 1:12,2.1 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{vg}^{\wedge} \mathrm{b}\right]<4>;[\mathrm{NA}-27]<2>;[\mathrm{Ex}-142]<2>;[\mathrm{Ex}-147]<3>; \text { Ex- }} \\ & 158 \$<1>; \end{aligned}$ |
| 19.2 | 1:12,2.2 | [0243*\%]<5>; [0243^c\%]<5>; Autograph; |
| 19.3 | 1:12,2.3 | D06*<2>; |
| 20.1 | 1:14,1.1 | Autograph; |
| 20.2 | 1:14,1.2 |  |
| 21.1 | 2:1,1.1 | [ $\left.\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; Autograph; |
| 21.2 | 2:1,1.2 | Ex-153<2>; |
| 22.1 | 2:2,1.1 | Autograph; |
| 22.2 | 2:2,1.2 | [L020*\%]<2>; [L020^c\%]<2>; Ex-158\$<1>; |
| 23.1 | 2:4,1.1 | Autograph; |
| 23.2 | 2:4,1.2 | [ $\mathrm{B} * \%]<3>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>$; Ex-158\$<1>; |
| 24.1 | 2:4,2.1 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>$; $\left.\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>$; [D06*]<2>; [104*\%]<3>; Autograph; |
| 24.2 | 2:4,2.2 | $\begin{aligned} & {[\mathrm{P} 025 * \%]<2>;[81 * \%]<2>;[323 *]<7>;[630 \%]<3>;[1505 * \%]<2>;[\mathrm{Ex}-141]<4>;[\mathrm{Ex}-} \\ & 145]<2>;[\mathrm{Ex}-146]<4>; \text { Ex-151\#<1>; } \end{aligned}$ |
| 25.1 | 2:4,3.1 | Autograph; |
| 25.2 | 2:4,3.2 | D06*<2>; |
| 26.1 | 2:6,1.1 | [Ex-146]<4>; Autograph; |
| 26.2 | 2:6,1.2 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{C}^{*} \%\right]<2>;[\mathrm{P} 025 * \%]<2>;[81 * \%]<2>;[104 * \%]<3>;\left[\mathrm{vg}^{\wedge} \mathrm{b}\right]<4>;[\mathrm{it}-} \\ & \mathrm{d}]<3>;[\mathrm{bo} \wedge \mathrm{a} \%]<2>;[\mathrm{bo} \wedge \mathrm{~b} \%]<2>;[\mathrm{Ex}-153]<2>; \text { Ex-158\$<1>; } \\ & \hline \end{aligned}$ |
| 27.1 | 2:7,1.1 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;\left[\mathrm{B}^{*} \%\right]<3>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{vg}^{\wedge} \mathrm{b}\right]<4>;[\mathrm{NA}-27]<2>;[\text { Ex- }} \\ & 149]<3>; \text { Ex-158\$<1>; } \end{aligned}$ |
| 27.2 | 2:7,1.2 | [6]<7>; [TR]<5>; Autograph; |
| 28.1 | 2:8,1.1 | $\begin{aligned} & {\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{D} 06^{*}\right]<2>;\left[\mathrm{D} 06^{\wedge} \mathrm{c} \%\right]<4>;\left[\mathrm{D} 06^{\wedge} 1 \%\right]<4>;\left[\mathrm{D} 06^{\wedge} 2\right]<5>;\left[\mathrm{bo}{ }^{\wedge} \mathrm{b} \%\right]<2>;} \\ & {[\text { NA-27] }] 2>;[\text { Ex-142]<2>; }[\mathrm{Ex}-146]<4>;[\text { Ex-154] }]<3>; \text { Ex-158\$ }<1>;} \end{aligned}$ |
| 28.2 | 2:8,1.2 | [ $\left.\mathrm{P}^{\wedge} 46 *\right]<2>;[0278 * \%]<2>;[0278 \wedge$ c\%]<2>; [629^ c]<5>; [Ex-136]<3>; Autograph; |
| 28.3 | 2:8,1.3 | [104*\%]<3>; [629*]<5>; [2464*\%]<2>; [bo^a\%]<2>; Ex-159\$<1>; |
| 29.1 | 2:8,2.1 | Autograph; |
| 29.2 | 2:8,2.2 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;[\mathrm{B} * \%]<3>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;[\mathrm{vg} \wedge \mathrm{~b}]<4>;[\mathrm{it}-\mathrm{d}]<3>;[\mathrm{it}-\mathrm{v} \%]<3>;} \\ & {\left[\mathrm{bo}{ }^{\wedge} \mathrm{b} \%\right]<2>; \text { Ex-158\$ }<1>;} \end{aligned}$ |
| 30.1 | 2:9,1.1 | Autograph; |
| 30.2 | 2:9,1.2 | $\begin{aligned} & {[0243 * \%]<5>;\left[0243^{\wedge} \mathrm{c} \%\right]<5>;\left[1739^{*}\right]<5>;[\operatorname{vg} \wedge \mathrm{b}]<4>;[\text { Ambr } \%]<5>;[\text { Fulg } \%]<2>;} \\ & {\left[\text { Hier^b }^{\wedge} \%\right]<2>;\left[\mathrm{Or}^{\wedge} \mathrm{b} \%\right]<2>; \text { Ex-158\$<1>; }} \end{aligned}$ |
| 31.1 | 2:11,1.1 | Autograph; |
| 31.2 | 2:11,1.2 | Ex-145<2>; |
| 32.1 | 2:14,1.1 | Autograph; |
| 32.2 | 2:14,1.2 | [D06*]<2>; [vg^b]<4>; [it-b*]<2>; [it-t\%]<3>; Ex-158\$<1>; |
| 33.1 | 2:17,1.1 | Autograph; |
| 33.2 | 2:17,1.2 | [Ex-136]<3>; [Ex-143]<4>; [Ex-145]<2>; Ex-158\$<1>; |
| 34.1 | 3:2,1.1 | Autograph; |


| 34.2 | 3:2,1.2 | $\left[\mathrm{P}^{\wedge} 13^{*} \%\right]<2>;\left[\mathrm{P}^{\wedge} 13^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;[\mathrm{B} * \%]<3>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;$ [vg^b]<4>; [sa^a\%]<2>; [sa^b\%]<2>; [bo^a\%]<2>; [bo^b\%]<2>; [Ambr\%]<5>; Ex158\$<1>; |
| :---: | :---: | :---: |
| 35.1 | 3:3,1.1 | $\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{C}^{*} \%\right]<2>;\left[\mathrm{C}^{\wedge} 2 \%\right]<2>;\left[\mathrm{C}^{\wedge} 3 \%\right]<2>;$ <br> [D06*]<2>; [D06^c\%]<4>; [D06^1\%]<4>; [D06^2]<5>; [P025*\%]<2>; [1505*\%]<2>; <br> [NA-27]<2>; [Ex-142]<2>; [Ex-143]<4>; Ex-158\$<1>; |
| 35.2 | 3:3,1.2 | Autograph; |
| 36.1 | 3:4,1.1 | [P^46*]<2>; [B^c\%]<2>; [D06*]<2>; [6]<7>; Autograph; |
| 36.2 | 3:4,1.2 | [C^3\%]<2>; [0278*\%]<2>; [0278^c\%]<2>; [Ex-155]<2>; Ex-158\$<1>; |
| 37.1 | 3:6,1.1 |  |
| 37.2 | 3:6,1.2 | [6]<7>; [sy^p\%]<3>; [Ex-147]<3>; [Ex-151\#]<1>; [Ex-159\$]<1>; Ex-163\$<1>; |
| 38.1 | 3:6,2.1 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;\left[\mathrm{C}^{* \%}\right]<2>;\left[\mathrm{C}^{\wedge} 2 \%\right]<2>;\left[\mathrm{C}^{\wedge} 3 \%\right]<2>;\left[0278^{* \%}\right]<2>;} \\ & {\left[0278^{\wedge} \mathrm{c} \%\right]<2>;[\mathrm{vg} \wedge \mathrm{~b}]<4>;[\mathrm{NA}-27]<2>;[\mathrm{Ex}-142]<2>;[\mathrm{Ex}-155]<2>; \mathrm{Ex}-158 \$<1>;} \end{aligned}$ |
| 38.2 | 3:6,2.2 | [01^1]<3>; [B*\%]<3>; [630\%]<3>> Autograph; |
| 38.3 | 3:6,2.3 | 01*<3>; |
| 39.1 | 3:6,3.1 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 13 * \%\right]<2>;\left[\mathrm{P}^{\wedge} 13^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;[\mathrm{B} * \%]<3>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;} \\ & {\left[\mathrm{sa}{ }^{\wedge} \mathrm{a} \%\right]<2>;\left[\mathrm{s}{ }^{\wedge} \mathrm{b} \%\right]<2>;[\mathrm{NA}-27]<2>;[\mathrm{Lcf} \%]<3>; \text { Ex-158\$<1>; }} \end{aligned}$ |
| 39.2 | 3:6,3.2 | Autograph; |
| 40.1 | 3:9,1.1 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 13^{*} \%\right]<2>;\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;[\mathrm{B} \wedge \mathrm{c} \%]<2>;\left[\mathrm{D} 06^{*}\right]<2>;[\mathrm{Ex}-152 \#]<1>;} \\ & {[\mathrm{Ex}-158 \$]<1>; \mathrm{Ex}-163 \$<1>;} \end{aligned}$ |
| 40.2 | 3:9,1.2 | [01^2]<3>; [bo^b\%]<2>; Autograph; |
| 41.1 | 3:9,2.1 | [vg^b]<4>; Autograph; |
| 41.2 | 3:9,2.2 | [Ambr\%] $<5>$; [Ex-150]<2>; Ex-158\$ <1>; |
| 41.3 | 3:9,2.3 | [01^2]<3>; [0278*\%]<2>; [0278^c\%]<2>; [it-ar]<5>; [Ex-155]<2>; Ex-159\$<1>; |
| 42.1 | 3:10,1.1 | [6]<7>; Autograph; |
| 42.2 | 3:10,1.2 | $\begin{aligned} & \hline\left[\mathrm{C}^{* \%} \%<2>;\left[\mathrm{C}^{\wedge} 2 \%\right]<2>;\left[\mathrm{C}^{\wedge} 3 \%\right]<2>;\left[0278^{* \%}\right]<2>;\left[0278^{\wedge} \mathrm{c} \%\right]<2>;[\mathrm{vg} \mathrm{~b}]<4>;[\mathrm{it}-\right. \\ & \mathrm{ar}]<5>;[\mathrm{b} \wedge \mathrm{a} \%]<2>;[\mathrm{bo} \wedge \mathrm{~b} \%]<2>;[\mathrm{Ex}-155]<2>; \text { Ex-158\$<1>; } \\ & \hline \end{aligned}$ |
| 43.1 | 3:10,2.1 | Autograph; |
| 43.2 | 3:10,2.2 | [P^13*\%]<2>; [P^13^c\%]<2>; Ex-158\$<1>; |
| 44.1 | 3:13,1.1 | Autograph; |
| 44.2 | 3:13,1.2 | [ $\left.\mathrm{P}^{\wedge} 13 * \%\right]<2>;\left[\mathrm{P}^{\wedge} 13 \wedge\right.$ ¢ \% ] $<2>$; Ex-158\$<1>; |
| 45.1 | 3:13,2.1 | Autograph; |
| 45.2 | 3:13,2.2 | $\begin{aligned} & {\left[\mathrm{C}^{*} \%\right]<2>;\left[\mathrm{C}^{\wedge} 2 \%\right]<2>;\left[\mathrm{C}^{\wedge} 3 \%\right]<2>;[104 * \%]<3>;[1241 * \%]<2>;[2464 * \%]<2>;[\mathrm{Ex}-} \\ & 136]<3>; \mathrm{Ex}-158 \$<1>; \end{aligned}$ |
| 46.1 | 3:13,3.1 | [TR]<5>; Autograph; |
| 46.2 | 3:13,3.2 | [B*\%]<3>; [B^C\%]<2>; [D06*]<2>; [Ex-149]<3>; Ex-158\$<1>; |
| 47.1 | 3:14,1.1 | Autograph; |
| 47.2 | 3:14,1.2 | [1505*\%]<2>; [Ex-136]<3>; [Ex-138]<4>; [Ex-141]<4>; Ex-158\$<1>; |
| 47.3 | 3:14,1.3 | 424^${ }^{\text {c }}<7$ 7>; |
| 48.1 | 3:17,1.1 | Autograph; |
| 48.2 | 3:17,1.2 | [it-d]<3>; [Ex-136]<3>; Ex-158\$<1>; |
| 49.1 | 3:17,2.1 | Autograph; |
| 49.2 | 3:17,2.2 | Ex-136<3>; |


| 50.1 | 3:18,1.1 | $\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{D} 06^{*}\right]<2>;[\mathrm{H} 015 * \%]<2>;[0278 * \%]<2>;\left[0278^{\wedge} \mathrm{c} \%\right]<2>;[104 * \%]<3>;$ $[365 \%]<2>;$ Autograph; |
| :---: | :---: | :---: |
| 50.2 | 3:18,1.2 | [ ${ }^{\wedge}$ ^46^$\left.{ }^{\text {c }}\right]<4>$; [Ex-151\#]<1>; [Ex-158\$] $<1>$; Ex-163\$<1>; |
| 51.1 | 4:1,1.1 | Autograph; |
| 51.2 | 4:1,1.2 | D06*<2>; |
| 52.1 | 4:2,1.1 | [B*\%]<3>; [Ex-136]<3>; Autograph; |
| 52.2 | 4:2,1.2 |  |
| 52.3 | 4:2,1.3 | 104*\%<3>; |
| 53.1 | 4:2,2.1 | [P^46*]<2>; [B^c\%]<2>; [0278*\%]<2>; [0278^c\%]<2>; [365\%]<2>; Autograph; |
| 53.2 | 4:2,2.2 | [D06*]<2>; [104*\%]<3>; [1505*\%]<2>; [Lcf\%]<3>; Ex-159\$<1>; |
| 53.3 | 4:2,2.3 | [1912]<6>; Ex-151\#<1>; |
| 54.1 | 4:3,1.1 | Autograph; |
| 54.2 | 4:3,1.2 | [C*\%]<2>; [C^2\%]<2>; [C^3\%]<2>; [Ex-136]<3>; Ex-158\$<1>; |
| 55.1 | 4:3,2.1 | [ $\left.\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{C}\right]<4>$; [ ${ }^{*} \%$ ] $]<3>$; Autograph; |
| 55.2 | 4:3,2.2 | $\left[\mathrm{C}^{*} \%\right]<2>;\left[\mathrm{C}^{\wedge} 2 \%\right]<2>;\left[\mathrm{C}^{\wedge} 3 \%\right]<2>;[0278 * \%]<2>;\left[0278^{\wedge} \mathrm{c} \%\right]<2>;[81 * \%]<2>$; <br> $[104 * \%]<3>;[365 \%]<2>;[2464 * \%]<2>;[\mathrm{vg} \wedge \mathrm{b}]<4>;[E x-142]<2>;[$ Ex-153]<2>; Ex159 \ll $1>$; |
| 55.3 | 4:3,2.3 | sy^p\%<3>; |
| 56.1 | 4:3,3.1 | [0278*\%]<2>; [0278^c\%]<2>; Autograph; |
| 56.2 | 4:3,3.2 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 13 * \%\right]<2>;\left[\mathrm{P}^{\wedge} 13^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;\left[\mathrm{B}^{*} \%\right]<3>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;} \\ & {[\mathrm{D} 06 * 1<2>; \mathrm{Ex}-158 \$<1>;} \end{aligned}$ |
| 57.1 | 4:3,4.1 | Autograph; |
| 57.2 | 4:3,4.2 | [ $\left.\mathrm{P}^{\wedge} 13 * \%\right]<2 \gg\left[\mathrm{P}^{\wedge} 13{ }^{\wedge} \mathrm{c} \%\right]<2>$; [Ex-136]<3>; Ex-158\$<1>; |
| 58.1 | 4:4,1.1 | Autograph; |
| 58.2 | 4:4,1.2 |  |
| 59.1 | 4:5,1.1 | Autograph; |
| 59.2 | 4:5,1.2 | [I\%]<3>; [326]<4>; [Ex-145]<2>; Ex-158\$<1>; |
| 59.3 | 4:5,1.3 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 13 * \%\right]<2>;\left[\mathrm{P}^{\wedge} 13^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{D} 06^{*}\right]<2>;[81 * \%]<2>;[\mathrm{bo} \wedge \mathrm{a} \%]<2>;[\mathrm{bo} \wedge \mathrm{~b} \%]<2>;} \\ & {[\mathrm{Ex}-141]<4>;[\mathrm{Ex}-146]<4>; \mathrm{Ex}-159 \$<1>;} \end{aligned}$ |
| 60.1 | 4:6,1.1 | $\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{D} 06^{*}\right]<2>;\left[0278^{* \%}\right]<2>;\left[0278^{\wedge} \mathrm{c} \%\right]<2>;[104 * \%]<3>;[365 \%]<2>;$ Autograph; |
| 60.2 | 4:6,1.2 | [P^46^c]<4>; [01*]<3>; [Ex-151\#]<1>; [Ex-158\$]<1>; Ex-163\$<1>; |
| 61.1 | 4:7,1.1 | [ $\left.\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; Autograph; |
| 61.2 | 4:7,1.2 | [B*\%]<3>; [B^c\%]<2>; [Ex-153]<2>; Ex-158\$<1>; |
| 61.3 | 4:7,1.3 | [Ex-141]<4>; [Ex-148]<4>; Ex-159\$<1>; |
| 62.1 | 4:8,1.1 | Autograph; |
| 62.2 | 4:8,1.2 | [ $\left.\mathrm{B}^{*} \%\right]<3>;[\mathrm{B}$ ¢ $\mathrm{C} \%]<2>$; Ex-158\$<1>; |
| 63.1 | 4:11,1.1 |  |
| 63.2 | 4:11,1.2 | [P^46^c]<4>; [sy^h\%]<5>; [Ex-151\#]<1>; [Ex-158\$]<1>; Ex-163\$<1>; |
| 63.3 | 4:11,1.3 | D06*<2>; |
| 64.1 | 4:12,1.1 | Autograph; |
| 64.2 | 4:12,1.2 |  |
| 65.1 | 4:12,2.1 | Autograph; |


| 65.2 | 4:12,2.2 | [1505*\%]<2>; [2464*\%]<2>; Ex-158\$<1>; |
| :---: | :---: | :---: |
| 66.1 | 4:16,1.1 | Autograph; |
| 66.2 | 4:16,1.2 | [ $\left.\mathrm{B}^{*} \%\right]<3 \gg[\mathrm{~B}$ ^ $\mathrm{c} \%]<2>$; Ex-158\$<1>; |
| 67.1 | 5:1,1.1 | Autograph; |
| 67.2 | 5:1,1.2 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;\left[\mathrm{B}^{* \%} /\right]<3>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{D} 06^{\wedge} 1 \%\right]<4>;[\mathrm{Ex}-143]<4>; \text { Ex- }} \\ & 158 \$<1>\text { : } \end{aligned}$ |
| 68.1 | 5:3,1.1 | $\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;[\mathrm{D} 06 *]<2>;\left[0278^{* \%} \%<2>;\left[0278^{\wedge} \mathrm{c} \%\right]<2>;\left[{ }^{\wedge} 249\right]<5>\right.$ $\left[1^{\wedge} 846\right]<7>;[\mathrm{sy}$ ^h $\%]<5>;[\mathrm{sy} \wedge \mathrm{p} \%]<3>;[\mathrm{Ex}-143]<4>;$ Autograph; |
| 68.2 | 5:3,1.2 | [C^3\%]<2>; [Ex-155]<2>; Ex-159\$<1>; |
| 68.3 | 5:3,1.3 | [467]<7>; [Ex-151\#]<1>; [Ex-158\$]<1>; Ex-163\$<1>; |
| 69.1 | 5:3,2.1 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46 *\right]<2>;[\mathrm{B} * \%]<3>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{D} 06^{*}\right]<2>;[0278 * \%]<2>;[1 \wedge 846]<7>;[\mathrm{NA}-} \\ & 27]<2>;[\mathrm{Ex}-153]<2>; \text { Ex-158\$<1>; } \end{aligned}$ |
| 69.2 | 5:3,2.2 | [0278^c\%]<2>; [Ex-146]<4>; Autograph; |
| 70.1 | 5:3,3.1 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;[\mathrm{B} \wedge \mathrm{c} \%]<2>;[\mathrm{D} 06 *]<2>;\left[0278^{*} \%\right]<2>;\left[0278^{\wedge} \mathrm{c} \%\right]<2>;[104 * \%]<3>;} \\ & {\left[1^{\wedge} 249\right]<5>;\left[\wedge^{\wedge} 846\right]<7>;[\mathrm{Ex}-143]<4>; \text { Autograph; }} \end{aligned}$ |
| 70.2 | 5:3,3.2 | [C^3\%]<2>; [Ex-155]<2>; Ex-158\$<1>; |
| 71.1 | 5:4,1.1 | Autograph; |
| 71.2 | 5:4,1.2 | [ $\left.\mathrm{P}^{\wedge} 13 * \%\right]<2>;\left[\mathrm{P}^{\wedge} 13^{\wedge} \mathrm{c} \%\right]<2>$; Ex-158\$<1>; |
| 72.1 | 5:4,2.1 | $\left[\mathrm{P}^{\wedge} 46^{*}\right]<2 \gg\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;[\mathrm{B} \wedge$ c \% ] $<2>$; [D06*]<2>; [1^249]<5>; Autograph; |
| 72.2 | 5:4,2.2 | [01^2]<3>; [C^2\%]<2>; [0278*\%]<2>; [0278^c\%] ${ }^{\text {c }}$ [2>; Ex-156\#<1>; |
| 72.3 | 5:4,2.3 | $\mathrm{C}^{*} \%<2>$; |
| 73.1 | 5:6,1.1 | Autograph; |
| 73.2 | 5:6,1.2 | $\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;[\mathrm{P} 025 * \%]<2>;[\mathrm{Ex}-141]<4>;$ Ex-158\$<1>; |
| 74.1 | 5:11,1.1 | Autograph; |
| 74.2 | 5:11,1.2 | [P^46*]<2>; [D06*]<2>; [P025*\%]<2>; Ex-158\$<1>; |
| 75.1 | 5:12,1.1 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{D} 06^{*}\right]<2>;\left[0278^{*} \%\right]<2>;\left[0278^{\wedge} \mathrm{c} \%\right]<2>;[104 * \%]<3>;} \\ & {[365 \%]<2>; \text { Autograph; }} \end{aligned}$ |
| 75.2 | 5:12,1.2 | [462]<7>; [1912]<6>; [Ex-151\#]<1>; [Ex-158\$]<1>; Ex-163\$<1>; |
| 76.1 | 5:12,2.1 | [P^^4**]<2>; [P^46^c]<4>; [D06*]<2>; [Ex-143]<4>; Ex-152\#<1>; |
| 76.2 | 5:12,2.2 | [sa^b\%]<2>; [bo^b\%]<2>; Autograph; |
| 76.3 | 5:12,2.3 | [6]<7>; [Ex-153]<2>; Ex-159\$<1>; |
| 77.1 | 5:12,3.1 | [D06*]<2>; [0278*\%]<2>; [0278^c\%]<2>; [vg^b]<4>; Autograph; |
| 77.2 | 5:12,3.2 | $\begin{aligned} & {[01 *]<3>;\left[\mathrm{B}^{\wedge} 2 \%\right]<2>;\left[\mathrm{C}^{*} \%\right]<2>;\left[\mathrm{C}^{\wedge} 2 \%\right]<2>;\left[\mathrm{C}^{\wedge} 3 \%\right]<2>;[81 * \%]<2>;[\text { Ex- }} \\ & 145]<2>;[\mathrm{Ex}-147]<3>;[\mathrm{Ex}-151 \#][1>;[\mathrm{Ex}-159 \$]<1>; \text { Ex-163\$<1>; } \end{aligned}$ |
| 78.1 | 5:13,1.1 | Autograph; |
| 78.2 | 5:13,1.2 | D06*<2>; |
| 79.1 | 6:2,1.1 | Autograph; |
| 79.2 | 6:2,1.2 | $\begin{aligned} & \text { [P^46*]<2>; }\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;\left[\mathrm{B}^{* \%}\right]<3>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;[0150]<7>;[\mathrm{it}-\mathrm{d}]<3>; \text { Ex- } \\ & 1588<1>; \end{aligned}$ |
| 80.1 | 6:2,2.1 | Autograph; |
| 80.2 | 6:2,2.2 | $[\mathrm{B} * \%]<3>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;[\mathrm{D} 06 *]<2>;[\mathrm{P} 025 * \%]<2>;[365 \%]<2>;[\mathrm{vg} \wedge \mathrm{b}]<4>;$ $[\mathrm{sa} \wedge \mathrm{a} \%]<2>;\left[\mathrm{sa}{ }^{\wedge} \mathrm{b} \%\right]<2>;[\mathrm{bo} \wedge \mathrm{a} \%]<2>;[\mathrm{bo} \wedge \mathrm{b} \%]<2>;$ Ex- $158 \$<1>$; |
| 81.1 | 6:3,1.1 | [6]<7>; [630\%]<3>; [pm^b]<7>; [TR]<5>; [Ex-141]<4>; Autograph; |


| 81.2 | 6:3,1.2 | $[\mathrm{C} * \%]<2>;\left[\mathrm{C}^{\wedge} 2 \%\right]<2>;\left[\mathrm{C}^{\wedge} 3 \%\right]<2>;[\mathrm{D} 06 *]<2>;[\mathrm{P} 025 * \%]<2>;\left[81^{* \%}\right]<2>$; $[104 * \%]<3>;[365 \%]<2>;[1505 * \%]<2>;[2464 * \%]<2>;\left[\mathrm{vg}^{\wedge} \mathrm{b}\right]<4>;[\mathrm{Ex}-136]<3>$; [Ex-155]<2>; Ex-159\$<1>; |
| :---: | :---: | :---: |
| 82.1 | 6:9,1.1 | Autograph; |
| 82.2 | 6:9,1.2 | $\begin{aligned} & {[01 *]<3>;[0278 * \%]<2>;\left[0278^{\wedge} \mathrm{c} \%\right]<2>;[\text { sy^h\%]<5>; [sy^p\%]<3>; [Ex-143]<4>; Ex- }} \\ & 158 \$<1>; \end{aligned}$ |
| 82.3 | 6:9,1.3 | [257]<7>; [vg^b]<4>; [it-r\%]]<3>; [Aug^a\%]<2>; Ex-159\$<1>; |
| 83.1 | 6:10,1.1 | [6]<7>; [sy^h\%]<5>; [sy^p\%]<3>; [Ex-143]<4>; Autograph; |
| 83.2 | 6:10,1.2 | [bo^a\%]<2>; [bo^b\%]<2>; [Ex-155]<2>; Ex-159\$<1>; |
| 84.1 | 6:10,2.1 | [D06*]<2>; [0278*\%]<2>; [0278^c\%]<2>; Autograph; |
| 84.2 | 6:10,2.2 | [P^46*]<2>; [B^2\%]<2>; [1505*\%]<2>; [Ex-143]<4>; [Ex-153]<2>; Ex-158\$<1>; |
| 85.1 | 6:11,1.1 | Autograph; |
| 85.2 | 6:11,1.2 | [ $1 \%$ ]<3>; [it-ar]<5>; Ex-158\$<1>; |
| 85.3 | 6:11,1.3 | Ex-145<2>; |
| 86.1 | 6:14,1.1 | $\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;[\mathrm{B} \wedge \mathrm{c} \%]<2>;\left[\mathrm{D} 06^{*}\right]<2>;\left[104^{* \%}\right]<3>;[326]<4>$; Auto- graph; |
| 86.2 | 6:14,1.2 | Ex-156\#<1>; |
| 86.3 | 6:14,1.3 | [D06^1\%]<4>; [L020*\%]<2>; [L020^c\%]<2>; Ex-151\#<1>; |
| 86.4 | 6:14,1.4 | [0278*\%]<2>; [0278^${ }^{\text {¢ }} \%$ ] $<2>$; Ex-159\$<1>; |
| 87.1 | 6:16,1.1 | [Ex-143]<4>; Autograph; |
| 87.2 | 6:16,1.2 | $\begin{aligned} & {\left[\mathrm{C}^{*} \%\right]<2>;\left[\mathrm{C}^{\wedge} 2 \%\right]<2>;\left[\mathrm{C}^{\wedge} 3 \%\right]<2>;[0278 * \%]<2>;\left[0278^{\wedge} \mathrm{c} \%\right]<2>;[\mathrm{bo} \wedge \mathrm{a} \%]<2>;} \\ & {[\mathrm{bo} \wedge \mathrm{~b} \%]<2>[\mathrm{Ex}-145]<2>[\mathrm{Ex}-155]<2>; \text { Ex- } 158 \$<1>;} \end{aligned}$ |
| 88.1 | 6:17,1.1 | Autograph; |
| 88.2 | 6:17,1.2 | [ $\left.\mathrm{B}^{*} \%\right]<3>;[\mathrm{B}$ ¢ $\mathrm{c} \%]<2>$; Ex-158\$<1>; |
| 89.1 | 6:17,2.1 | Autograph; |
| 89.2 | 6:17,2.2 | $\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;\left[\mathrm{P}^{\wedge} 89 \%\right]<2>;\left[\mathrm{D} 06^{*}\right]<2>;\left[\mathrm{D} 06^{\wedge} \mathrm{c} \%\right]<4>;\left[\mathrm{D} 06^{\wedge} 1 \%\right]<4>;$ $\left[\mathrm{D} 06^{\wedge} 2\right]<5>;\left[323^{*}\right]<7>;\left[\mathrm{vg}^{\wedge} \mathrm{b}\right]<4>;[\mathrm{it}-\mathrm{ar}]<5>;$ Ex-158\$<1>; |
| 90.1 | 6:17,3.1 | Autograph; |
| 90.2 | 6:17,3.2 | Ex-136<3>; |
| 91.1 | 6:17,4.1 | Autograph; |
| 91.2 | 6:17,4.2 | 69<7>; |
| 92.1 | 6:18,1.1 | [P^46*]<2>; [0278*\%]<2>; [0278^c\%]<2>; [Eus^a\%]<2>; Autograph; |
| 92.2 | 6:18,1.2 | [01^2]<3>; [B*\%]<3>; [B^$\left.{ }^{\wedge} \%\right]<2>;[$ D06*]<2>; [Ex-155]<2>; Ex-158\$<1>; |
| 93.1 | 6:19,1.1 | Autograph; |
| 93.2 | 6:19,1.2 | [D06*]<2>; [D06^c\%]<4>; [D06^1\%]<4>; [D06^2]<5>; [0278*\%]<2>; $\left[0278^{\wedge} \mathrm{c} \%\right]<2>$; [vg^b]<4>; [it-ar]<5>; Ex-158\$<1>; |
| 94.1 | 7:1,1.1 | [ $\mathrm{P}^{\wedge} 46 *$ ]<2>; [C*\%]<2>; [NA-27]<2>; Autograph; |
| 94.2 | 7:1,1.2 | $\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{D} 06^{\star}\right]<2>;\left[\mathrm{D} 06^{\wedge} \mathrm{c} \%\right]<4>;\left[\mathrm{D} 06^{\wedge} 1 \%\right]<4>;\left[\mathrm{D} 06^{\wedge} 2\right]<5>;\left[0278^{*} \%\right]<2>$ $\left[0278^{\wedge} \mathrm{c} \%\right]<2>;$ Ex-152\#<1>; |
| 95.1 | 7:1,2.1 | Autograph; |
| 95.2 | 7:1,2.2 | 460<7>; |
| 96.1 | 7:2,1.1 | Autograph; |
| 96.2 | 7:2,1.2 | [ $\mathrm{B}^{* \%}$ ] $<3 \gg\left[\mathrm{~B}^{\wedge} \mathrm{c} \%\right]<2>$; Ex-158\$<1>; |


| 96.3 | 7:2,1.3 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>$; $\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; [sy^p\%]<3>; Ex-159\$<1>; |
| :---: | :---: | :---: |
| 97.1 | 7:4,1.1 | Autograph; |
| 97.2 | 7:4,1.2 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{B}^{*} \%\right]<3>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{D} 06^{*}\right]<2>;[6]<7>;\left[\mathrm{vg}^{\wedge} \mathrm{b}\right]<4>;[\mathrm{it}-\mathrm{r} \%]<3>;} \\ & {\left[\mathrm{sy}{ }^{\wedge} \mathrm{p} \%\right]<3>;\left[\mathrm{sa}{ }^{\wedge} \mathrm{a} \%\right]<2>;[\mathrm{sa} \wedge \mathrm{~b} \%]<2>;\left[\mathrm{bo}{ }^{\wedge} \mathrm{a} \%\right]<2>;[\mathrm{bo} \wedge \mathrm{~b} \%]<2>;[\mathrm{Ex}-153]<2>; \text { Ex- }} \\ & 158 \$<1>; \end{aligned}$ |
| 98.1 | 7:6,1.1 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;[01 *]<3>;[\mathrm{B} * \%]<3>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;[\mathrm{C} * \%]<2>;\left[\mathrm{C}^{\wedge} 2 \%\right]<2>;} \\ & {\left[\mathrm{C}^{\wedge} 3 \%\right]<2>;\left[\mathrm{D} 06^{*}\right]<2>;[\mathrm{NA}-27]<2>;[\mathrm{Ex}-145]<2>; \text { Ex-158\$<1>;}} \end{aligned}$ |
| 98.2 | 7:6,1.2 | [0278*\%]<2>; [0278^c\%]<2>; Epiph^a\%<2>; Autograph; |
| 99.1 | 7:6,2.1 | [B^ c\%]<2>; [D06*]<2>; Autograph; |
| 99.2 | 7:6,2.2 | $\begin{aligned} & {\left[\mathrm{C}^{*} \%\right]<2>;\left[\mathrm{C}^{\wedge} 2 \%\right]<2>;\left[\mathrm{C}^{\wedge} 3 \%\right]<2>;[\mathrm{P} 025 * \%]<2>;[0278 * \%]<2>;[0278 \wedge \mathrm{c} \%]<2>;} \\ & {[81 * \%]<2>;[104 * \%]<3>;[365 \%]<2>;[1505 * \%]<2>;[\mathrm{Ex}-136]<3>;[\mathrm{Ex}-143]<4>;} \\ & {[\mathrm{Ex}-153]<2>; \text { Ex-158\$<1>; }} \end{aligned}$ |
| 100.1 | 7:9,1.1 | [01*]<3>; Autograph; |
| 100.2 | 7:9,1.2 | $\begin{aligned} & {\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;[\mathrm{C} \%]<2>;[6]<7>;[81 * \%]<2>;[630 \%]<3>;[1505 * \%]<2>;[\text { it-mu }]<3>;} \\ & {[\mathrm{Ex}-142]<2>;[\mathrm{Ex}-147]<3>; \text { Ex-158\$<1>; }} \end{aligned}$ |
| 101.1 | 7:10,1.1 | $\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{C}^{*} \%\right]<2>;[\mathrm{D} 06 *]<2>;[0278 * \%]<2>;\left[0278^{\wedge} \mathrm{c} \%\right]<2>;$ [365\%]<2>; [1505*\%]<2>; [NA-27]<2>; [Ex-142]<2>; [Ex-143]<4>; [Ex-147]<3>; Ex-158\$<1>; |
| 101.2 | 7:10,1.2 | [Ex-136]<3>; Autograph; |
| 102.1 | 7:11,1.1 | Autograph; |
| 102.2 | 7:11,1.2 | [ $\mathrm{B}^{*} \%$ ]<3>; [ $\left.\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>$; Ex-158\$<1>; |
| 103.1 | 7:11,2.1 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{D} 06^{*}\right]<2>;\left[0278^{*} \%\right]<2>;\left[0278^{\wedge} \mathrm{c} \%\right]<2>;[104 * \%]<3>;} \\ & {[365 \%]<2>;[\mathrm{Ex}-143]<4>;[\text { Ex-147]<3>; Autograph; }} \end{aligned}$ |
| 103.2 | 7:11,2.2 | Ex-156\#<1>; |
| 103.3 | 7:11,2.3 | [6]<7>; [326]<4>; [614*]<7>; Ex-158\$<1>; |
| 104.1 | 7:11,3.1 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{D} 06^{*}\right]<2>;\left[0278^{*} \%\right]<2>;\left[0278^{\wedge} \%\right]<2>;[6]<7>;} \\ & {[104 * \%]<3>;[365 \%]<2>; \text { Autograph; }} \end{aligned}$ |
| 104.2 | 7:11,3.2 | Ex-155<2>; |
| 105.1 | 7:13,1.1 | Autograph; |
| 105.2 | 7:13,1.2 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>$; $\left.\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; Ex-158\$<1>; |
| 106.1 | 7:13,2.1 | [ $\left.\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;[\mathrm{D} 06 *]<2>;[0278 * \%]<2>;[0278 \wedge$ c\%]<2>; Autograph; |
| 106.2 | 7:13,2.2 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46 *\right]<2>;\left[\mathrm{C}^{*} \%\right]<2>;\left[\mathrm{C}^{\wedge} 2 \%\right]<2>;\left[\mathrm{C}^{\wedge} 3 \%\right]<2>;[81 * \%]<2>;[\mathrm{Ex}-136]<3>;[\text { Ex- }} \\ & 145]<2>;[\mathrm{Ex}-147]<3>; \text { Ex-158\$<1>; } \end{aligned}$ |
| 106.3 | 7:13,2.3 | [ $\mathrm{K} * \%$ ]<2>; [P025*\%]<2>; Ex-159\$<1>; |
| 107.1 | 7:14,1.1 | Autograph; |
| 107.2 | 7:14,1.2 | [104*\%]<3>; [365\%]<2>; Ex-158\$<1>; |
| 108.1 | 7:14,2.1 | Autograph; |
| 108.2 | 7:14,2.2 | [0278*\%]<2>; [0278^c\%]<2>; Ex-158\$<1>; |
| 108.3 | 7:14,2.3 | $\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; [01*]<3>; [104*\%]<3>; Ex-159\$<1>; |
| 108.4 | 7:14,2.4 | [81*\%]<2>; [Ex-150]<2>; [Ex-153]<2>; Ex-160\$<1>; |
| 108.5 | 7:14,2.5 | $\left[\mathrm{C}^{\wedge} 3 \%\right]<2>;\left[\mathrm{vg}^{\wedge} \mathrm{b}\right]<4>;\left[\mathrm{it}-\mathrm{b}^{*}\right]<2>;[$ Ex-155]<2>; [Ex-161\$]<1>; Ex-163\$<1>; |
| 108.6 | 7:14,2.6 | [1505*\%]<2>; [Ex-143]<4>; Ex-162\$<1>; |
| 109.1 | 7:16,1.1 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{D} 06^{*}\right]<2>;\left[\mathrm{D} 06^{\wedge} \mathrm{c} \%\right]<4>;[0278 * \%]<2>;\left[0278^{\wedge} \mathrm{c} \%\right]<2>;} \\ & {[6]<7>;[365 \%]<2>;\left[614^{*}\right]<7>;[630 \%]<3>; \text { Autograph; }} \end{aligned}$ |
| 109.2 | 7:16,1.2 | [ $\left.{ }^{\wedge} 3 \%\right]<2>;[E x-155]<2>;$ Ex-159\$<1>; |


| 110.1 | 7:17,1.1 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{D} 06^{*}\right]<2>;\left[0278^{*} \%\right]<2>;\left[0278^{\wedge} \%\right]<2>;[6]<7>;} \\ & {[104 * \%]<3>;[365 \%]<2>;[\mathrm{Ex}-143]<4>; \text { Autograph; }} \end{aligned}$ |
| :---: | :---: | :---: |
| 110.2 | 7:17,1.2 | $\left[\mathrm{C}^{*} \%\right]<2>;\left[\mathrm{C}^{\wedge} 2 \%\right]<2>;\left[\mathrm{C}^{\wedge} 3 \%\right]<2>;[\mathrm{Ex}-155]<2>$; Ex-158\$<1>; |
| 111.1 | 7:17,2.1 | [Ex-146]<4>; Autograph; |
| 111.2 | 7:17,2.2 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{D} 06^{\wedge} 2\right]<5>;[\mathrm{K} * \%]<2>;\left[\mathrm{P} 025^{*} \%\right]<2>;[326]<4>;[\mathrm{pm} \mathrm{~b}]<7>;[\mathrm{Ex}-} \\ & 153]<2>; \text { Ex-158\$<1>; } \end{aligned}$ |
| 112.1 | 7:18,1.1 | Autograph; |
| 112.2 | 7:18,1.2 | $\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;[1241 * \%]<2>;[\mathrm{sa} \mathrm{\wedge} \mathrm{a} \%]<2>$; [sa^ $\left.\mathrm{b} \%\right]<2>;$ Ex-158\$<1>; |
| 113.1 | 7:21,1.1 | [ $\mathrm{B}^{\wedge} \mathrm{c} \%$ ]<2>; [D06*]<2>; [0278*\%]<2>; [0278^ $\left.\mathrm{c}^{\prime} \%\right]<2>;$ Eus^a\%]<2>; Autograph; |
| 113.2 | 7:21,1.2 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{D} 06^{\wedge} 2\right]<5>;[\mathrm{K} * \%]<2>;[\mathrm{P} 025 * \%]<2>;[326]<4>;[\mathrm{Ex}-147]<3>; \text { Ex- }} \\ & 158 \$<1>; \end{aligned}$ |
| 114.1 | 7:21,2.1 | [P^46^c]<4>; [01*]<3>; [B*\%] ${ }^{\text {c }}$ 3>>; [Ex-141]<4>; Autograph; |
| 114.2 | 7:21,2.2 | [D06*]<2>; [vg^b]<4>; [Eus^a\%]<2>; [Ex-142]<2>; Ex-156\#<1>; |
| 115.1 | 7:22,1.1 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{D} 06^{*}\right]<2>;[326]<4>;[365 \%]<2>; \text { Auto- }} \\ & \text { graph; } \end{aligned}$ |
| 115.2 | 7:22,1.2 | [01^2]<3>; [0278*\%]<2>; [0278^c\%]<2>; Ex-156\#<1>; |
| 116.1 | 7:22,2.1 | $\begin{aligned} & {[01 *]<3>;[\mathrm{B} * \%]<3>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;[\mathrm{C} * \%]<2>;[\mathrm{it}-\mathrm{mu}]<3>;[\mathrm{NA}-27]<2>;[\mathrm{Ex}-145]<2>;} \\ & \text { Ex-158\$<1>; } \end{aligned}$ |
| 116.2 | 7:22,2.2 | Autograph; |
| 117.1 | 7:24,1.1 | Autograph; |
| 117.2 | 7:24,1.2 | D06*<2>; |
| 118.1 | 7:26,1.1 | [P^46*]<2>; [B*\%]<3>; [B^c\%]<2>; [D06*]<2>; [D06^c\%]<4>; [D06^1\%]<4>; $\left[\mathrm{D} 06^{\wedge} 2\right]<5>;[104 * \%]<3>;[\mathrm{sy} \wedge \mathrm{h} \%]<5>;[\mathrm{sy} \wedge \mathrm{p} \%]<3>;[\mathrm{NA}-27]<2>;[$ Eus^a$\%]<2>$; [Eus^b\%]<3>; [Ex-136]<3>; [Ex-147]<3>; Ex-158\$<1>; |
| 118.2 | 7:26,1.2 | [0278*\%]<2>; [0278^c\%]<2>; Autograph; |
| 119.1 | 7:27,1.1 | Autograph; |
| 119.2 | 7:27,1.2 | D06*<2>; |
| 119.3 | 7:27,1.3 | [323*]<7>; [945]<7>; Ex-158\$<1>; |
| 120.1 | 7:27,2.1 | Autograph; |
| 120.2 | 7:27,2.2 | $\begin{aligned} & {\left[\mathrm{D} 06^{*}\right]<2>;\left[\mathrm{D} 06^{\wedge} \mathrm{c} \%\right]<4>;\left[\mathrm{D} 06^{\wedge} 1 \%\right]<4>;\left[\mathrm{D} 06^{\wedge} 2\right]<5>;[\mathrm{P} 025 * \%]<2>;[630 \%]<3>;} \\ & {\left[\mathrm{vg}^{\wedge} \mathrm{b}\right]<4>;[\mathrm{it}-\mathrm{r} \%]<3>;[\text { Ambr } \%]<5>;[\text { Aug^a } \%]<2>; \text { Ex-158\$<1>; }} \end{aligned}$ |
| 120.3 | 7:27,2.3 | [P^46*]<2>; [P^46^c]<4>; Ex-159\$<1>; |
| 121.1 | 7:27,3.1 | $\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{B}^{*} \%\right]<3>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{D} 06^{*}\right]<2>;[\mathrm{sa} \wedge \mathrm{a} \%]<2>;[\mathrm{sa} \wedge \mathrm{~b} \%]<2>;$ <br> [bo^b\%]<2>; [NA-27]<2>; Autograph; |
| 121.2 | 7:27,3.2 | [0278*\%]<2>; [0278^c\%]<2>; [365\%]<2>; Ex-152\#<1>; |
| 122.1 | 7:28,1.1 | Autograph; |
| 122.2 | 7:28,1.2 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;\left[\mathrm{D} 06^{*}\right]<2>;[\mathrm{I} \%]<3>;\left[\mathrm{sy}^{\wedge} \mathrm{p} \%\right]<3>;\left[\mathrm{sa}^{\wedge} \mathrm{a} \%\right]<2>;} \\ & {\left[\mathrm{sa} \mathrm{~s}^{\wedge} \mathrm{b} \%\right]<2>; \text { Ex-158\$<1>; }} \end{aligned}$ |
| 123.1 | 8:1,1.1 | Autograph; |
| 123.2 | 8:1,1.2 | [ $\left.\mathrm{vg}^{\wedge} \mathrm{b}\right]<4>$; [it-b*]<2>; [Ex-136]<3>; Ex-158\$ $<1>$; |
| 124.1 | 8:1,2.1 | Autograph; |
| 124.2 | 8:1,2.2 | $\left[\operatorname{vg}^{\wedge} \mathrm{b}\right]<4>$; $\left.\operatorname{Eus}^{\wedge} \mathrm{a} \%\right]<2>$; $\left.\operatorname{Eus}^{\wedge} \mathrm{b} \%\right]<3>$; [Ex-145]<2>; Ex-158\$<1>; |
| 124.3 | 8:1,2.3 | $365 \%<2>$; |
| 125.1 | 8:2,1.1 | $\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;[01 *]<3>;[\mathrm{B} \% \%]<3>;[\mathrm{B} \wedge \mathrm{c} \%]<2>;\left[\mathrm{D} 06^{*}\right]<2>;[\mathrm{NA}-27]<2>;$ $\left[\mathrm{Eus}^{\wedge} \mathrm{a} \%\right]<2>;\left[\mathrm{Eus}^{\wedge} \mathrm{b} \%\right]<3>;[$ Ex-145]<2>; [Ex-147]<3>; Ex-158\$<1>; |


| 125.2 | 8:2,1.2 | Autograph; |
| :---: | :---: | :---: |
| 126.1 | 8:4,1.1 | [D06^c\%] $<4>$; Autograph; |
| 126.2 | 8:4,1.2 | Ex-155<2>; |
| 127.1 | 8:4,2.1 | [6]<7>; [Ex-141]<4>; Autograph; |
| 127.2 | 8:4,2.2 | [0278*\%]<2>; [0278^ c\%]<2>; [Ex-155]<2>; Ex-159\$<1>; |
| 128.1 | 8:4,3.1 | $\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>$; [ $\left.\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>$; Autograph; |
| 128.2 | 8:4,3.2 | $\begin{aligned} & {\left[01^{\wedge} 2\right]<3>;\left[\mathrm{D} 06^{*}\right]<2>;\left[0278^{*} \%\right]<2>;\left[0278^{\wedge} \mathrm{c} \%\right]<2>;[\text { Ex-146]<4>; }[\text { Ex-155]<2>; }} \\ & \text { Ex-158\$<1>; } \end{aligned}$ |
| 129.1 | 8:6,1.1 | [0278*\%]<2>; [0278^c\%]<2>; Autograph; |
| 129.2 | 8:6,1.2 | $\mathrm{P}^{\wedge} 46^{*<2>} ; \mathrm{B}$ * $\%<3>$; $\mathrm{B}^{\wedge} \mathrm{c} \%<2>; \mathrm{D} 06 *<2>$; |
| 130.1 | 8:6,2.1 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;[\mathrm{D} 06 *]<2>;[\mathrm{K} * \%]<2>;[\mathrm{L} 020 * \%]<2>;\left[\mathrm{L} 020^{\wedge} \mathrm{c} \%\right]<2>;} \\ & {[81 * \%]<2>;\left[1241^{*} \%\right]<2>;[2464 * \%]<2>;[\mathrm{NA}-27]<2>;[\mathrm{Ex}-142]<2>;[\mathrm{Ex}-148]<4>;} \\ & \mathrm{Ex}-158 \$<1>; \end{aligned}$ |
| 130.2 | 8:6,2.2 | $\begin{aligned} & {\left[01^{\wedge} 2\right]<3>;\left[\mathrm{B}^{*} \%\right]<3>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{D} 06^{\wedge} 2\right]<5>;\left[0278^{*} \%\right]<2>;\left[0278^{\wedge} \mathrm{c} \%\right]<2>;} \\ & {[365 \%]<2>;[945]<7>;\left[1175^{*} \%\right]<2>;[\mathrm{pm} \mathrm{~b}]<7>;[\mathrm{TR}]<5>; \text { Ex-159\$<1>;}} \end{aligned}$ |
| 130.3 | 8:6,2.3 | [6]<7>; [104*\%]<3>; Autograph; |
| 131.1 | 8:6,3.1 | Autograph; |
| 131.2 | 8:6,3.2 | [D06*]<2>; [K*\%]<2>; [326]<4>; [1505*\%]<2>; Ex-158\$<1>; |
| 132.1 | 8:7,1.1 | Autograph; |
| 132.2 | 8:7,1.2 | B*\%<3>; |
| 132.3 | 8:7,1.3 | $365 \%<2>$; |
| 133.1 | 8:8,1.1 | Autograph; |
| 133.2 | 8:8,1.2 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46 *\right]<2>;[01 \wedge 2]<3>;[\mathrm{B} * \%]<3>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;\left[0278^{*} \%\right]<2>;\left[0278^{\wedge} \mathrm{c} \%\right]<2>;[\mathrm{Ex}-} \\ & 141]<4>;[\text { Ex-148]<4>; }[\text { Ex-153]<2>; Ex-158\$<1>; } \end{aligned}$ |
| 134.1 | 8:9,1.1 | Autograph; |
| 134.2 | 8:9,1.2 |  |
| 135.1 | 8:10,1.1 | Autograph; |
| 135.2 | 8:10,1.2 | [D06*]<2>; [D06^c\%]<4>; [D06^1\%]<4>; [D06^2]<5>; [bo^b\%]<2>; [Ex-136]<3>; <br> [Ex-143]<4>; Ex-158\$<1>; |
| 136.1 | 8:10,2.1 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>;[\mathrm{D} 06 *]<2>;[0278 * \%]<2>;\left[0278 \wedge\right.$ c\%] ${ }^{\text {c }}$ /2>; Autograph; |
| 136.2 | 8:10,2.2 | [01*]<3>; [K*\%]<2>; Ex-158\$<1>; |
| 136.3 | 8:10,2.3 | $\mathrm{P} 025 * \%<2>; 104 * \%<3>; 365 \%<2>$; $\mathrm{vg}^{\wedge} \mathrm{b}<4>$; it-d<3>; |
| 136.4 | 8:10,2.4 | $\mathrm{B} * \%<3>$; $\mathrm{B}^{\wedge} \mathrm{c} \%<2>$; |
| 137.1 | 8:10,3.1 | Autograph; |
| 137.2 | 8:10,3.2 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;\left[\mathrm{B}^{*} \%\right]<3>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;[0285 \%]<2>;[\mathrm{Ex}-143]<4>; \text { Ex- }} \\ & 158 \$<1>; \end{aligned}$ |
| 138.1 | 8:11,1.1 | [ $\left.\mathrm{P}^{\wedge} 46 *\right]<2>;[\mathrm{B}$ c $\%$ ]<2>; [D06*]<2>; [0278*\%]<2>; [0278^c\%]<2>; Autograph; |
| 138.2 | 8:11,1.2 | $\begin{aligned} & \hline[\mathrm{P} 025 * \%]<2>;[81 * \%]<2>;[630 \%]<3>;\left[2464^{*} \%\right]<2>;[\mathrm{TR}]<5>; \mathrm{Cyr} \wedge \mathrm{a} \%<5>; \text { Ex- } \\ & 151 \#<1>;[\mathrm{Ex}-154]<3>; \end{aligned}$ |
| 138.3 | 8:11,1.3 | 326<4>; |
| 139.1 | 8:11,2.1 | Autograph; |
| 139.2 | 8:11,2.2 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>$; $\left.\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; [D06*]<2>; Ex-158\$<1>; |
| 140.1 | 8:11,3.1 | Cyr^a\%<5>; Autograph; |


| 140.2 | 8:11,3.2 | [vg^b]<4>; [sa^a\%]<2>; [sa^b\%]<2>; [bo^a\%]<2>; [bo^b\%]<2>; [Ex-155]<2>; Ex158\$<1>; |
| :---: | :---: | :---: |
| 141.1 | 8:12,1.1 | [01*]<3>; [B*\%]<3>; Autograph; |
| 141.2 | 8:12,1.2 | [D06*]<2>; [0285\%]<2>; [vg^b]<4>; [Ex-142]<2>; [Ex-149]<3>> Ex-159\$<1>; |
| 141.3 | 8:12,1.3 | 075\%<5>; |
| 141.4 | 8:12,1.4 | [0278*\%]<2>; [0278^ c\%]<2>; Cyr^a\% < $5>$; [Ex-145]<2>; Ex-160\$<1>; |
| 142.1 | 9:1,1.1 | [0285\%]<2>; [Ex-149]<3>; Autograph; |
| 142.2 | 9:1,1.2 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;[\mathrm{B} * \%]<3>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;[6]<7>;[\text { sa^a} \%]<2>;[\text { sa^b} \%]<2>;[\mathrm{bo} \wedge \mathrm{~b} \%]<2>;} \\ & {[\mathrm{Ex}-156 \#]<1>;[\mathrm{Ex}-159 \$]<1>; \mathrm{Ex}-163 \$<1>;} \end{aligned}$ |
| 143.1 | 9:1,2.1 | [D06^c\%]<4>; [D06^1\%]<4>; [sy^p\%]<3>; [Ex-148]<4>; Autograph; |
| 143.2 | 9:1,2.2 | $\begin{aligned} & {[81 * \%]<2>;[104 * \%]<3>;[365 \%]<2>;[2464 * \%]<2>;[\mathrm{TR}]<5>;[\mathrm{vg} \text { ^b]<4>; [Ex- }} \\ & 155]<2>; \text { Ex-159\$<1>; } \end{aligned}$ |
| 144.1 | 9:2,1.1 | Autograph; |
| 144.2 | 9:2,1.2 | [ ${ }^{*} \%$ \%]<3>; [ $\mathrm{B}^{\wedge} \mathrm{c} \%$ ] $<2>$; [sa^b\%] $<2>$; Ex-158\$<1>; |
| 145.1 | 9:2,2.1 | [0278*\%]<2>; [0278^c\%]<2>; Autograph; |
| 145.2 | 9:2,2.2 | vg^ $\wedge<4>$; Ex-151\#<1>; [Ex-154]<3>; |
| 145.3 | 9:2,2.3 |  |
| 145.4 | 9:2,2.4 | [P^46*]<2>; [P^46^c]<4>; [D06*]<2>; [Ex-136]<3>; Ex-160\$<1>; |
| 146.1 | 9:3,1.1 | [D06*]<2>; Autograph; |
| 146.2 | 9:3,1.2 | $\left[01^{\wedge} 2\right]<3>;\left[\mathrm{B}^{*} \%\right]<3>;\left[\mathrm{B}^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{D} 06^{\wedge} 2\right]<5>;\left[\mathrm{K}^{*} \%\right]<2>;\left[\mathrm{L} 020^{*} \%\right]<2>;$ [L020^c\%]<2>; [0278*\%]<2>; [0278^c\%]<2>; [1241*\%]<2>; [1505*\%]<2>; Ex158\$<1>; |
| 146.3 | 9:3,1.3 | [P025*\%]<2>; [Ex-146]<4>; Ex-159\$<1>; |
| 146.4 | 9:3,1.4 | $\mathrm{P}^{\wedge} 46^{*<2>} ; \mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}<4>$; |
| 147.1 | 9:4,1.1 | Autograph; |
| 147.2 | 9:4,1.2 | [ $\left.\mathrm{B}^{*} \%\right]<3 \gg[\mathrm{~B} \wedge$ c $\%$ ] $<2>$; [sa^b\%] $<2>$; Ex-158\$<1>; |
| 148.1 | 9:4,2.1 | Autograph; |
| 148.2 | 9:4,2.2 | [ $\left.\mathrm{B}^{*} \%\right]<3>;[\mathrm{B}$ ¢ $\mathrm{c} \%]<2>$; Ex-158\$<1>; |
| 149.1 | 9:9,1.1 | Autograph; |
| 149.2 | 9:9,1.2 | D06*<2>; |
| 150.1 | 9:9,2.1 | Autograph; |
| 150.2 | 9:9,2.2 | [it-d]<3>; [bo^a\%]<2>; [bo^b\%] <2>; [Ex-155]<2>; Ex-158\$<1>; |
| 151.1 | 9:10,1.1 | [104*\%] $<3>$; Autograph; |
| 151.2 | 9:10,1.2 | [01^2]<3>; [B*\%]<3>; [B^C\%]<2>; Ex-158\$<1>; |
| 151.3 | 9:10,1.3 | [Ex-150]<2>; [Ex-155]<2>; Ex-159\$<1>; |
| 151.4 | 9:10,1.4 | D06*<2>; |
| 152.1 | 9:11,1.1 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;[\mathrm{B} * \%]<3>;[\mathrm{B} \wedge \mathrm{c} \%]<2>;[\mathrm{D} 06 *]<2>;[\text { sy^h} \%]<5>;[\text { sy^p\% }]<3>;[\text { NA- }} \\ & 27]<2>;[\mathrm{Ex}-147]<3>; \text { Ex-158\$<1>; } \end{aligned}$ |
| 152.2 | 9:11,1.2 | Autograph; |
| 153.1 | 9:12,1.1 | Autograph; |
| 153.2 | 9:12,1.2 | P025*\%<2>; |
| 154.1 | 9:14,1.1 | [sy^p\%]<3>; [Ambr\%] < $5>$; [Ex-148]<4>; Autograph; |


| 154.2 | 9:14,1.2 | [01^2]<3>; [D06*]<2>; [P025*\%]<2>; [81*\%]<2>; [365\%]<2>; [2464*\%]<2>; <br> [sa^b\%]<2>; [bo^a\%]<2>; [bo^b\%]<2>; [Ex-150]<2>; [Ex-155]<2>; Ex-159\$<1>; |
| :---: | :---: | :---: |
| 155.1 | 9:14,2.1 | [D06*]<2>; [K*\%]<2>; [P025*\%]<2>; [365\%]<2>; [vg^cl]<5>; [sy^p\%]<3>; <br> [bo^b\%]<2>; [NA-27]<2>; [Ambr\%]<5>; [Ex-136]<3>; [Ex-147]<3>; Ex-158\$<1>; |
| 155.2 | 9:14,2.2 | [1739^${ }^{\wedge}$ ] $<5>$; Autograph; |
| 155.3 | 9:14,2.3 | 614*<7>; |
| 156.1 | 9:14,3.1 | Autograph; |
| 156.2 | 9:14,3.2 | $\begin{aligned} & {\left[\mathrm{P} 025^{*} \%\right]<2>;\left[0278^{* \%}\right]<2>;\left[0278^{\wedge} \mathrm{c} \%\right]<2>;[104 * \%]<3>;\left[\mathrm{it}-\mathrm{b}^{*}\right]<2>;\left[\mathrm{bo}{ }^{\wedge} \mathrm{a} \%\right]<2>;} \\ & {[\mathrm{b} \wedge \mathrm{~b} \%]<2>;[\mathrm{Ex}-136]<3>; \text { Ex-158\$<1>; }} \end{aligned}$ |
| 157.1 | 9:17,1.1 | Autograph; |
| 157.2 | 9:17,1.2 | [01*]<3>; [D06*]<2>; Ex-158\$<1>; |
| 158.1 | 9:19,1.1 | Autograph; |
| 158.2 | 9:19,1.2 | [P^46*]<2>; [P^46^ c]<4>; [D06*]<2>; Ex-158\$<1>; |
| 159.1 | 9:19,2.1 | $\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;\left[\mathrm{D} 06^{*}\right]<2>;\left[0278^{* \%}\right]<2>;\left[0278^{\wedge} \mathrm{c} \%\right]<2>;[104 * \%]<3>;$ Autograph; |
| 159.2 | 9:19,2.2 | [01*]<3>; [Ex-156\#]<1>; [Ex-158\$]<1>; Ex-163\$<1>; |
| 160.1 | 9:19,3.1 | Autograph; |
| 160.2 | 9:19,3.2 | $\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[01^{\wedge} 2\right]<3>;\left[\mathrm{K}^{*} \%\right]<2>;[\mathrm{L} 020 * \%]<2>;\left[\mathrm{L} 020^{\wedge} \mathrm{c} \%\right]<2>;\left[0278^{* \%} \%<2>\right.$; [0278^c\%]<2>; [1241*\%]<2>; [1505*\%]<2>; [sy^p\%]<3>; [Ex-153]<2>; Ex158\$<1>; |
| 160.3 | 9:19,3.3 | [D06*]<2>; [D06^c\%] ${ }^{\text {c }}$ 4>; [D06^1\%]<4>; [D06^2]<5>; [365\%]<2>; Ex-159\$<1>; |
| 160.4 | 9:19,3.4 | [bo^a\%]<2>; [bo^b\%]<2>; [Ex-145]<2>; [Ex-148]<4>; Ex-160\$<1>; |
| 161.1 | 9:25,1.1 | Autograph; |
| 161.2 | 9:25,1.2 | [01^2]<3>; [sa^b\%]<2>; Ex-158\$<1>; |
| 162.1 | 9:26,1.1 | Autograph; |
| 162.2 | 9:26,1.2 | [1908]<7>; [sa^a\%]<2>; [sa^b\%]<2>; Ex-158\$<1>; |
| 163.1 | 9:26,2.1 | [104*\%]<3>; [365\%]<2>; [630\%]<3>; Autograph; |
| 163.2 | 9:26,2.2 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{C}^{*} \%\right]<2>;\left[\mathrm{C}^{\wedge} 2 \%\right]<2>;\left[\mathrm{C}^{\wedge} 3 \%\right]<2>;[0278 * \%]<2>;\left[0278^{\wedge} \mathrm{c} \%\right]<2>;[\mathrm{Ex}-} \\ & 156 \#]<1>;[\mathrm{Ex}-158 \$]<1>; \mathrm{Ex}-163 \$<1>; \end{aligned}$ |
| 163.3 | 9:26,2.3 | D06*<2>; Aug $^{\wedge} \mathrm{a} \%<2>$; Eus $^{\wedge} \mathrm{a} \%<2>$; Eus^${ }^{\text {® }} \%<3>$; |
| 164.1 | 9:28,1.1 | Autograph; |
| 164.2 | 9:28,1.2 | $[\mathrm{P} 025 * \%]<2>;[0278 * \%]<2>;\left[0278^{\wedge} \mathrm{c} \%\right]<2>;[0285 \%]<2>;[81 * \%]<2>;$ $[1505 * \%]<2>;[\mathrm{vg} \wedge \mathrm{b}]<4>;\left[\mathrm{it-b} \mathrm{~b}^{*}\right]<2>;[$ sy^h$\%]<5>;[\mathrm{Ex}-136]<3>;$ Ex-158\$<1>; |
| 165.1 | 10:1,1.1 | Autograph; |
| 165.2 | 10:1,1.2 | [1908]<7>; [sy^p\%]<3>; Ex-158\$<1>; |
| 165.3 | 10:1,1.3 | 69<7>; |
| 165.4 | 10:1,1.4 | [ $\mathrm{P}^{\wedge} 46^{*}$ ]<2>; [ $\left.\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; Ex-159\$<1>; |
| 166.1 | 10:1,2.1 | [Ex-136]<3>; Autograph; |
| 166.2 | 10:1,2.2 | [P025*\%]<2>; [365\%]<2>; [it-b*]<2>; [Ex-142]<2>; Ex-158\$<1>; |
| 167.1 | 10:1,3.1 | Autograph; |
| 167.2 | 10:1,3.2 | $\begin{aligned} & {[\text { D06* }]<2>;[\mathrm{H} 015 * \%]<2>;\left[\mathrm{H} 015^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{L} 020^{*} \%\right]<2>;\left[\mathrm{L} 020^{\wedge} \mathrm{C} \%\right]<2>;} \\ & {\left[0278^{*} \%\right]<2>;\left[0278^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{it}-\mathrm{z}^{*} \%\right]<3>;\left[\mathrm{it}-\mathrm{z}^{\wedge} \mathrm{c} \%\right]<3>; \text { Ex-158\$<1>} ;} \end{aligned}$ |
| 167.3 | 10:1,3.3 | $\left[\mathrm{P}^{\wedge} 46 *\right]<2>;[1505 * \%]<2>$; [Ex-136] 3 3>; [Ex-145]<2>; Ex-159\$<1>; |


| 168.1 | 10:1,4.1 | [D06^2]<5>; [K*\%]<2>; [L020*\%]<2>; [L020^c\%]<2>; [pm^b]<7>; [TR]<5>; [NA27]<2>; Autograph; |
| :---: | :---: | :---: |
| 168.2 | 10:1,4.2 | $\begin{aligned} & {\left[\mathrm{D} 06^{\wedge} 1 \%\right]<4>;[0278 * \%]<2>;[0278 \wedge \mathrm{c} \%]<2>;[104 * \%]<3>;[\text { it-ar }]<5>;[\text { it-b* }]<2>; \text { [it- }} \\ & \mathrm{z} * \%]<3>;[\mathrm{sy} \wedge \mathrm{p} \%]<3>;[\text { Ex-148]<4>; Ex-152\#<1>; } \end{aligned}$ |
| 169.1 | 10:2,1.1 | Autograph; |
| 169.2 | 10:2,1.2 | H015*\%<2>; |
| 169.3 | 10:2,1.3 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>$; $\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; [365\%]<2>; Ex-158\$<1>; |
| 169.4 | 10:2,1.4 | $[614 *]<7>$; [630\%] $<3>$; [1505*\%]<2>; [Ex-153]<2>; Ex-159\$<1>; |
| 170.1 | 10:4,1.1 | [Ex-136]<3>; [Ex-146]<4>; Autograph; |
| 170.2 | 10:4,1.2 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;[326]<4>;\left[\mathrm{sa}^{\wedge} \mathrm{a} \%\right]<2>;[\mathrm{sa} \wedge \mathrm{~b} \%]<2>;[\text { Aug^a } \mathrm{a} \%]<2>;[\mathrm{Ex}-142]<2>;[\text { Ex- }} \\ & 153]<2>; \text { Ex-158\$<1>; } \end{aligned}$ |
| 171.1 | 10:4,2.1 | Autograph; |
| 171.2 | 10:4,2.2 | [L020*\%]<2>; [L020^c\%]<2>; Ex-158\$<1>; |
| 172.1 | 10:6,1.1 | [0278*\%]<2>; [0278^ c\%]<2>; [vg^cl]<5>; [it-r\%]<3>; [Ex-146]<4>; Autograph; |
| 172.2 | 10:6,1.2 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{D} 06^{*}\right]<2>;\left[\mathrm{D} 06^{\wedge} \mathrm{c} \%\right]<4>;\left[\mathrm{D} 06^{\wedge} 1 \%\right]<4>;\left[\mathrm{D} 06^{\wedge} 2\right]<5>;[\mathrm{vg} \wedge \mathrm{~b}]<4>;[\mathrm{Ex}-} \\ & 153]<2>; \text { Ex-158\$<1>; } \end{aligned}$ |
| 173.1 | 10:7,1.1 | Autograph; |
| 173.2 | 10:7,1.2 | $\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>$; [P^46^$\left.{ }^{\wedge}\right]<4>$; [D06*]<2>; [D06^2]<5>; Ex-158\$<1>; |
| 174.1 | 10:8,1.1 | [sy^p\%]<3>; [bo^a\%]<2>; Autograph; |
| 174.2 | 10:8,1.2 | [01^2]<3>; [I\%]<3>; [0278*\%]<2>; [0278^c\%]<2>; Ex-156\#<1>; |
| 175.1 | 10:8,2.1 |  |
| 175.2 | 10:8,2.2 | [D06*]<2>; [D06^c\%]<4>; [D06^1\%]<4>; [Ex-141]<4>; [Ex-148]<4>; Ex-158\$<1>; |
| 176.1 | 10:9,1.1 | [P^46*]<2>; [D06*]<2>; [D06^2]<5>; [it-r\%] ${ }^{\text {c }}$ [ $3>$; Autograph; |
| 176.2 | 10:9,1.2 | $\begin{aligned} & {\left[01^{\wedge} 2\right]<3>;[\mathrm{sy} \wedge \mathrm{p} \%]<3>;[\mathrm{bo} \wedge \mathrm{~b} \%]<2>;[\text { Ex-141]<4>; [Ex-146]<4>; [Ex-148]<4>; [Ex- }} \\ & 151 \#]<1>;[\text { Ex-158\$]<1>; Ex-163\$<1>; } \end{aligned}$ |
| 177.1 | 10:10,1.1 | [TR]<5>; Autograph; |
| 177.2 | 10:10,1.2 | Ex-149<3>; |
| 177.3 | 10:10,1.3 | $323 *<7>$; |
| 178.1 | 10:10,2.1 | Autograph; |
| 178.2 | 10:10,2.2 | D06*<2>; |
| 179.1 | 10:11,1.1 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>$; [D06*]<2>; Autograph; |
| 179.2 | 10:11,1.2 | $\begin{aligned} & {\left[\mathrm{C}^{*} \% \mathrm{]}<2>;\left[\mathrm{C}^{\wedge} 2 \%\right]<2>;\left[\mathrm{C}^{\wedge} 3 \%\right]<2>;[\mathrm{P} 025 * \%]<2>;[0278 * \%]<2>;\left[0278^{\wedge} \mathrm{c} \%\right]<2>;\right.} \\ & {[104 * \%]<3>;[365 \%]<2>;\left[614^{*}\right]<7>;[630 \%]<3>;[2464 * \%]<2>;\left[\mathrm{sy}^{\wedge} \mathrm{p} \%\right]<3>;} \\ & {[\mathrm{sa} \wedge \mathrm{a} \%]<2>;[\mathrm{sa} \wedge \mathrm{~b} \%]<2>;[\mathrm{Ex}-136]<3>; \mathrm{Ex}-158 \$<1>;} \end{aligned}$ |
| 180.1 | 10:11,2.1 | Autograph; |
| 180.2 | 10:11,2.2 | [ $\left.\mathrm{P}^{\wedge} 13 * \%\right]<2>$; $\left[\mathrm{P}^{\wedge} 13{ }^{\wedge} \mathrm{c} \%\right]<2>$; Ex-158\$<1>; |
| 181.1 | 10:12,1.1 | [sy^$\left.{ }^{\wedge} \%\right]<5>$; [sy^p\%]<3>; [Ex-143]<4>; Autograph; |
| 181.2 | 10:12,1.2 | Ex-155<2>; |
| 182.1 | 10:12,2.1 | Autograph; |
| 182.2 | 10:12,2.2 | [01*]<3>; [104*\%]<3>; [Ex-136]<3>; Ex-158\$<1>; |
| 183.1 | 10:13,1.1 | Autograph; |
| 183.2 | 10:13,1.2 | $\left[\mathrm{P}^{\wedge} 13 * \%\right]<2>$; [ $\left.\mathrm{P}^{\wedge} 13 \wedge \mathrm{c} \%\right]<2>$; Ex-158\$<1>; |
| 184.1 | 10:14,1.1 | Autograph; |


| 184.2 | 10:14,1.2 | $\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>$; $\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; Ex-158\$<1>; |
| :---: | :---: | :---: |
| 185.1 | 10:15,1.1 | [D06^2]<5>; Autograph; |
| 185.2 | 10:15,1.2 | [Ex-141]<4>; [Ex-148]<4>; Ex-158\$<1>; |
| 186.1 | 10:16,1.1 | [ $\mathrm{P}^{\wedge} 46 *$ ]<2>; [104*\%]<3>; [365\%]<2>; Autograph; |
| 186.2 | 10:16,1.2 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 13^{*} \%\right]<2>;\left[\mathrm{P}^{\wedge} 13^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{D} 06^{\wedge} \mathrm{c} \%\right]<4>;[\mathrm{Ex}-151 \#]<1>;[\mathrm{Ex}-158 \$]<1>; \text { Ex- }} \\ & 163 \$<1>; \end{aligned}$ |
| 187.1 | 10:16,2.1 | [P^46*]<2>; [D06*]<2>; [vg^st]<4>; [it-z*\%]<3>; [it-z^c\%]<3>; Autograph; |
| 187.2 | 10:16,2.2 | Ex-151\#<1>; [Ex-155]<2>; |
| 188.1 | 10:17,1.1 | [ $\left.\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; Autograph; |
| 188.2 | 10:17,1.2 | $\begin{aligned} & {\left[104^{*} \%\right]<3>;\left[323^{*}\right]<7>;[945]<7>;\left[\operatorname{vg}^{\wedge} \mathrm{b}\right]<4>;\left[\mathrm{sa}^{\wedge} \mathrm{a} \%\right]<2>;\left[\mathrm{sa}^{\wedge} \mathrm{b} \%\right]<2>;[\text { Ex- }} \\ & 153]<2>; \text { Ex-158\$<1>; } \end{aligned}$ |
| 188.3 | 10:17,1.3 | [1505*\%]<2>; [sy^h\%]<5>; Ex-159\$<1>; |
| 189.1 | 10:17,2.1 | [ $\left.\left.\mathrm{vg}^{\wedge} \mathrm{b}\right]<4\right\rangle$; Autograph; |
| 189.2 | 10:17,2.2 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 13 * \%\right]<2>;\left[\mathrm{P}^{\wedge} 13^{\wedge} \mathrm{c} \%\right]<2>;[\text { Ex-145 }]<2>;[\text { Ex-147 }]<3>;[\text { Ex- } 151 \#]<1>;[\text { Ex- }} \\ & 158 \$]<1>; \text { Ex-163\$<1>; } \end{aligned}$ |
| 190.1 | 10:17,3.1 | [D06*]<2>; Autograph; |
| 190.2 | 10:17,3.2 |  |
| 191.1 | 10:18,1.1 | Autograph; |
| 191.2 | 10:18,1.2 | [01*]<3>; [it-b*]<2>; [it-r\%]<3>; Ex-158\$<1>; |
| 192.1 | 10:22,1.1 | Autograph; |
| 192.2 | 10:22,1.2 | [P^46*]<2>; [D06*]<2>; [D06^c\%]<4>; [D06^1\%]<4>; [D06^2]<5>; [K*\%]<2>; $[\mathrm{L} 020 * \%]<2>;\left[\mathrm{L} 020^{\wedge} \mathrm{c} \%\right]<2>;[\mathrm{P} 025 * \%]<2>;[104 * \%]<3>;[326]<4>;[365 \%]<2>;$ $[1241 * \%]<2>;[\mathrm{Ex}-140]<3>;[\mathrm{Ex}-141]<4>; \mathrm{Ex}-158 \$<1>;$ |
| 193.1 | 10:23,1.1 | [P^46*]<2>; [D06*]<2>; [104*\%]<3>; [365\%]<2>; Autograph; |
| 193.2 | 10:23,1.2 | [01*]<3>; [sy^p\%]<3>; Ex-151\#<1>; |
| 194.1 | 10:24,1.1 | Autograph; |
| 194.2 | 10:24,1.2 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>$; [ $\left.\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; Ex-158\$ $<1>$; |
| 195.1 | 10:25,1.1 | Autograph; |
| 195.2 | 10:25,1.2 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>$; $\left.\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; [D06*] ${ }^{\text {c }}$ 2>; Ex-158\$ $<1>$; |
| 196.1 | 10:25,2.1 | Autograph; |
| 196.2 | 10:25,2.2 | Ex-145<2>; |
| 197.1 | 10:26,1.1 | Autograph; |
| 197.2 | 10:26,1.2 | $\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; $\left.\mathrm{vg}^{\wedge} \mathrm{b}\right]<4>$; Ex-158\$<1>; |
| 198.1 | 10:26,2.1 | Autograph; |
| 198.2 | 10:26,2.2 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;\left[\mathrm{D} 06^{*}\right]<2>;\left[\text { Hier }^{\wedge} \mathrm{a} \%\right]<2>;[\text { Hier^b} \%]<2>;[\text { Marc\% }]<2>;} \\ & \text { Ex-158\$<1>; } \end{aligned}$ |
| 199.1 | 10:26,3.1 | Autograph; |
| 199.2 | 10:26,3.2 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>$; [ $\left.\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; Ex-158\$ $<1>$; |
| 199.3 | 10:26,3.3 | D06*<2>; |
| 200.1 | 10:28,1.1 | Autograph; |
| 200.2 | 10:28,1.2 | D06*<2>; |
| 201.1 | 10:29,1.1 | Autograph; |
| 201.2 | 10:29,1.2 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>$; $\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; Ex-158\$ $<1>$; |


| 202.1 | 10:29,2.1 | Autograph; |
| :---: | :---: | :---: |
| 202.2 | 10:29,2.2 | [it-b*]<2>; [it-r\%]<3>; Ex-158\$<1>; |
| 203.1 | 10:29,3.1 | Autograph; |
| 203.2 | 10:29,3.2 | Ex-136<3>; |
| 204.1 | 10:30,1.1 | [01*]<3>; [6]<7>; Autograph; |
| 204.2 | 10:30,1.2 | [ $\left.\mathrm{vg}^{\wedge} \mathrm{b}\right]<4>$; [it-b*]<2>; [it-r\%]<3>; [Ex-142]<2>; [Ex-149]<3>; Ex-159\$<1>; |
| 205.1 | 10:30,2.1 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>$; $\left.\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; [365\%] $<2>$; Autograph; |
| 205.2 | 10:30,2.2 | $\left[\mathrm{D} 06^{\wedge} \mathrm{c} \%\right]<4>;\left[\mathrm{D} 06^{\wedge} 1 \%\right]<4>;\left[\mathrm{D} 06^{\wedge} 2\right]<5>;[81 * \%]<2>;[1505 * \%]<2>;[\mathrm{Ex}-141]<4>$; <br> [Ex-151\#]<1>; [Ex-153]<2>; [Ex-159\$]<1>; Ex-163\$<1>; |
| 206.1 | 10:30,3.1 | [D06^2]<5>; Autograph; |
| 206.2 | 10:30,3.2 | [01^2]<3>; [Ex-143]<4>; [Ex-148]<4>; Ex-158\$<1>; |
| 207.1 | 10:32,1.1 | Autograph; |
| 207.2 | 10:32,1.2 |  |
| 207.3 | 10:32,1.3 | 01*<3>; |
| 208.1 | 10:33,1.1 | Autograph; |
| 208.2 | 10:33,1.2 | D06*<2>; |
| 209.1 | 10:34,1.1 | [H015^c\%]<2>; [6]<7>; [sy^h\%]<5>; [sy^p\%]<3>; [bo^a\%]<2>; [Ex-136]<3>; [Ex147]<3>; Autograph; |
| 209.2 | 10:34,1.2 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;[104 * \%]<3>$; [it-r\%]<3>; [Ex-143]<4>; Ex-159\$<1>; |
| 209.3 | 10:34,1.3 | $[\mathrm{Cl} \wedge \mathrm{a} \%]<2>;[\mathrm{Ex}-142]<2>;[\mathrm{Ex}-156 \#]<1>$; [Ex-158\$] $<1>$; Ex-164\$<1>; |
| 209.4 | 10:34,1.4 | [it-d]<3>; [it-z*\%]<3>; [it-z^c\%]<3>; [Ex-160\$]<1>; Ex-163\$<1>; |
| 210.1 | 10:34,2.1 | [6]<7>; [Ex-143]<4>; Autograph; |
| 210.2 | 10:34,2.2 | [D06*]<2>; [Ex-155]<2>; Ex-158\$<1>; |
| 210.3 | 10:34,2.3 | Ex-140<3>; |
| 210.4 | 10:34,2.4 | P 025 *\%<2>; |
| 210.5 | 10:34,2.5 | 0150<7>; |
| 211.1 | 10:34,3.1 | [P^13*\%]<2>; [bo^a\%]<2>; [Ex-147]<3>; Autograph; |
| 211.2 | 10:34,3.2 | [01^2]<3>; [1739*]<5>; [vg^b]<4>; [Ex-156\#]<1>; [Ex-159\$]<1>; Ex-163\$<1>; |
| 212.1 | 10:37,1.1 | Autograph; |
| 212.2 | 10:37,1.2 | [ $\left.\mathrm{P}^{\wedge} 13 * \%\right]<2>$; [ $\left.\mathrm{P}^{\wedge} 13{ }^{\wedge} \mathrm{c} \%\right]<2>$; [104*\%] $<3>;\left[\mathrm{vg}^{\wedge} \mathrm{b}\right]<4>;$ Ex-158\$<1>; |
| 213.1 | 10:38,1.1 | [Ex-147]<3>; Autograph; |
| 213.2 | 10:38,1.2 | $\begin{aligned} & \hline\left[\mathrm{P}^{\wedge} 133^{\wedge} \mathrm{c} \%\right]<2>;[\mathrm{I} \%]<3>;[\mathrm{vg} \wedge \mathrm{~b}]<4>;[\mathrm{it}-\mathrm{b} *]<2>;[\mathrm{it}-\mathrm{t} \%]<3>;[\mathrm{it-} \text { - } \% \text { ] }]<3>;[\mathrm{it}- \\ & \left.\mathrm{z}^{\wedge} \mathrm{c} \%\right]<3>;[\mathrm{Ex}-156 \#]<1>;[\mathrm{Ex}-159 \$]<1>; \text { Ex-163\$<1>; } \end{aligned}$ |
| 213.3 | 10:38,1.3 | [D06*]<2>; [it-mu]<3>; [sy^h\%]<5>; [sy^p\%]<3>; Ex-158\$<1>; |
| 214.1 | 10:38,2.1 | Autograph; |
| 214.2 | 10:38,2.2 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 13 * \%\right]<2>;\left[\mathrm{P}^{\wedge} 13^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;\left[\mathrm{D} 06^{*}\right]<2>;\left[\mathrm{D} 06^{\wedge} 2\right]<5>;} \\ & \text { Ex-158\$<1>; } \end{aligned}$ |
| 215.1 | 11:1,1.1 | Autograph; |
| 215.2 | 11:1,1.2 | [ $\left.\mathrm{P}^{\wedge} 13 * \%\right]<2>;\left[\mathrm{P}^{\wedge} 13 \wedge \mathrm{c} \%\right]<2>;$ Ex-158\$<1>; |
| 216.1 | 11:2,1.1 | Autograph; |
| 216.2 | 11:2,1.2 | [ $\left.\mathrm{P}^{\wedge} 13 * \%\right]<2>;\left[\mathrm{P}^{\wedge} 13 \wedge \mathrm{c} \%\right]<2>$; Ex-158\$<1>; |
| 217.1 | 11:3,1.1 | [D06*]<2>; Autograph; |


| 217.2 | 11:3,1.2 | Ex-151\#<1>; [Ex-155]<2>; |
| :---: | :---: | :---: |
| 218.1 | 11:4,1.1 | Autograph; |
| 218.2 | 11:4,1.2 |  |
| 219.1 | 11:4,2.1 | [01^2]<3>; [bo^b\%]<2>; [NA-27]<2>; Autograph; |
| 219.2 | 11:4,2.2 | [D06*]<2>; [326]<4>; Ex-152\#<1>; |
| 219.3 | 11:4,2.3 |  |
| 220.1 | 11:4,3.1 | [6]<7>; [sy^h\%]<5>; [sy^p\%]<3>; Autograph; |
| 220.2 | 11:4,3.2 | [D06*]<2>; [it-z*\%]<3>; [it-z^c\%]<3>; [Ex-155]<2>; Ex-159\$<1>; |
| 221.1 | 11:5,1.1 | [6]<7>; Autograph; |
| 221.2 | 11:5,1.2 | [01^2]<3>; [vg^b]<4>; [Ex-155]<2>; Ex-158\$<1>; |
| 222.1 | 11:6,1.1 | [P^46*]<2>; [D06*]<2>; Autograph; |
| 222.2 | 11:6,1.2 | $\begin{aligned} & {[01 *]<3>;[\text { D06^1\%]<4>; [I\%]<3>; [326]<4>; [1241*\%]<2>; Epiph^a } \%<2>;[\text { Ex- }} \\ & \text { 145]<2>;Ex-158\$<1>; } \end{aligned}$ |
| 223.1 | 11:6,2.1 | Autograph; |
| 223.2 | 11:6,2.2 | [ $\left.\mathrm{P}^{\wedge} 13 * \%\right]<2>;\left[\mathrm{P}^{\wedge} 13 \wedge \mathrm{c} \%\right]<2>;[\mathrm{P} 025 * \%]<2>;$ Ex-158\$<1>; |
| 224.1 | 11:8,1.1 | Autograph; |
| 224.2 | 11:8,1.2 | [P^46*]<2>; [D06*]<2>; [Ex-136]<3>; [Ex-145]<2>; [Ex-153]<2>; Ex-158\$<1>; |
| 225.1 | 11:8,2.1 | [P^46*]<2>; [P^46^c]<4>; [D06*]<2>; [104*\%]<3>; [365\%]<2>; [Ex-143]<4>; Autograph; |
| 225.2 | 11:8,2.2 | [01^2]<3>; Ex-156\#<1>; |
| 226.1 | 11:11,1.1 | $\left[\mathrm{P}^{\wedge} 46 \wedge \mathrm{c}\right]<4>;[\mathrm{NA}-27]<2>;[$ Ex-143]<4>; [Ex-151\#]<1>; [Ex-160\$]<1>; Ex-163\$<1>; |
| 226.2 | 11:11,1.2 | [Aug^a\%] <2>; Autograph; |
| 226.3 | 11:11,1.3 | [P025*\%]<2>; [104*\%]<3>; [365\%]<2>; [1505*\%]<2>; [sy^p\%]<3>; Ex-158\$<1>; |
| 226.4 | 11:11,1.4 | [D06^1\%]<4>; [6]<7>; [81*\%]<2>; [1241*\%] $<2>$; [Ex-153]<2>; Ex-159\$<1>; |
| 227.1 | 11:11,2.1 | Autograph; |
| 227.2 | 11:11,2.2 | $\begin{aligned} & {\left[\mathrm{D} 06^{*}\right]<2>;[\mathrm{P} 025 * \%]<2>;[81 * \%]<2>;[1505 * \%]<2>;\left[\mathrm{vg}^{\wedge} \mathrm{b}\right]<4>;\left[\mathrm{it}-\mathrm{b}^{*}\right]<2>;} \\ & {[\mathrm{sy} \wedge \mathrm{~h} \%]<5>; \text { Ex-158\$<1>; }} \end{aligned}$ |
| 228.1 | 11:11,3.1 | [6]<7>; [Ex-143]<4>; Autograph; |
| 228.2 | 11:11,3.2 | [01^2]<3>; [it-b*]<2>; [Ex-155]<2>; Ex-158\$<1>; |
| 229.1 | 11:12,1.1 | [it-z*\%]<3>; [it-z^c\%]<3>; Autograph; |
| 229.2 | 11:12,1.2 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;\left[\mathrm{K}^{*} \%\right]<2>;[\mathrm{P} 025 * \%]<2>;[6]<7>;[81 * \%]<2>;[326]<4>;[\mathrm{Ex}-136]<3>;} \\ & {[\mathrm{Ex}-145]<2>;[\mathrm{Ex}-151 \#]<1>;[\text { Ex-158\$]<1>; Ex-163\$<1>; }} \end{aligned}$ |
| 230.1 | 11:12,2.1 | Autograph; |
| 230.2 | 11:12,2.2 | [P^46*]<2>; [D06*]<2>; [Ex-143]<4>; Ex-158\$<1>; |
| 231.1 | 11:13,1.1 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>$; [01^2]<3>; [D06*]<2>; [NA-27]<2>; Autograph; |
| 231.2 | 11:13,1.2 | [326]<4>; [365\%]<2>; Ex-152\#<1>; |
| 231.3 | 11:13,1.3 | Ex-136<3>; |
| 232.1 | 11:13,2.1 | Autograph; |
| 232.2 | 11:13,2.2 | [1518]<7>; [TR]<5>; Ex-158\$<1>; |
| 233.1 | 11:14,1.1 | Autograph; |
| 233.2 | 11:14,1.2 | $\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>$; [ $\left.\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; [D06*] 2 - $;$ [Ex-141]<4>; Ex-158\$<1>; |
| 234.1 | 11:15,1.1 | [D06*]<2>; [1739^${ }^{\text {c }}$ ]<5>; Autograph; |


| 234.2 | 11:15,1.2 | [104*\%]<3>; Ex-145<2>; |
| :---: | :---: | :---: |
| 234.3 | 11:15,1.3 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46 *\right]<2>;[01 *]<3>;[81 * \%]<2>;[1505 * \%]<2>;[\mathrm{Ex}-143]<4>;[\mathrm{Ex}-147]<3>; \text { Ex- }} \\ & 158 \$<1>; \end{aligned}$ |
| 235.1 | 11:15,2.1 | [P^46*]<2>; [D06*]<2>; [365\%]<2>; Autograph; |
| 235.2 | 11:15,2.2 | [01^2]<3>; [Ex-155]<2>; Ex-158\$<1>; |
| 236.1 | 11:17,1.1 | Autograph; |
| 236.2 | 11:17,1.2 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>$; $\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; Ex-158\$ $<1>$; |
| 236.3 | 11:17,1.3 | [it-b*]<2>; [Ex-143]<4>; Ex-159\$<1>; |
| 236.4 | 11:17,1.4 | [D06*]<2>; [D06^c\%]<4>; [D06^1\%]<4>; [D06^2]<5>; Ex-160\$<1>; |
| 236.5 | 11:17,1.5 | 1505*\%<2>; |
| 237.1 | 11:19,1.1 | Autograph; |
| 237.2 | 11:19,1.2 | $\begin{aligned} & {[\mathrm{P} 025 * \%]<2>;[81 * \%]<2>;[326]<4>;[1241 * \%]<2>;[\text { Ex-136 }]<3>;[\mathrm{Ex}-145]<2>; \text { Ex- }} \\ & 158 \$<1>; \end{aligned}$ |
| 238.1 | 11:19,2.1 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>$; [D06*]<2>; Autograph; |
| 238.2 | 11:19,2.2 | $\mathrm{P} 025 * \%<2>$; |
| 238.3 | 11:19,2.3 | $\begin{aligned} & {\left[\mathrm{D} 06^{\wedge} 1 \%\right]<4>;\left[1505^{*} \%\right]<2>;[\mathrm{it}-\mathrm{d}]<3>;[\text { Aug } \wedge \mathrm{a} \%]<2>;[\text { Ex-136]<3>; [Ex-143]<4>; }} \\ & \text { Ex-158\$<1>; } \end{aligned}$ |
| 239.1 | 11:20,1.1 | [6]<7>; [Ex-136]<3>; Autograph; |
| 239.2 | 11:20,1.2 | [ $\left.\mathrm{vg}^{\wedge} \mathrm{b}\right]<4>;[$ Ex-142]<2>; [Ex-155]<2>; Ex-158\$<1>; |
| 240.1 | 11:23,1.1 | Autograph; |
| 240.2 | 11:23,1.2 | [D06*]<2>; [vg^b]<4>; Ex-158\$<1>; |
| 241.1 | 11:29,1.1 | [sy^$\left.{ }^{\wedge} \%\right]<5>$; [sy^p\%]<3>; [Ex-143]<4>; Autograph; |
| 241.2 | 11:29,1.2 | Ex-155<2>; |
| 242.1 | 11:29,2.1 | Autograph; |
| 242.2 | 11:29,2.2 | 104*\%<3>; |
| 243.1 | 11:31,1.1 | Autograph; |
| 243.2 | 11:31,1.2 | [01*]<3>; [sy^ $\mathrm{h} \%$ ]<5>; Ex-158\$<1>; |
| 244.1 | 11:31,2.1 | Autograph; |
| 244.2 | 11:31,2.2 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>$; $\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; Ex-158\$ $<1>$; |
| 245.1 | 11:32,1.1 | [D06*]<2>; Ex-152\#<1>; |
| 245.2 | 11:32,1.2 | [ $\left.\mathrm{P}^{\wedge} 13 \wedge \mathrm{c} \%\right]<2>$; [ $\left.\mathrm{I} \%\right]<3>$; [Cl^a\%]<2>; Autograph; |
| 245.3 | 11:32,1.3 | Ex-143<4>; |
| 246.1 | 11:32,2.1 | Autograph; |
| 246.2 | 11:32,2.2 | [D06*]<2>; [Ex-155]<2>; Ex-158\$<1>; |
| 246.3 | 11:32,2.3 | [104*\%]<3>; [365\%]<2>; Ex-159\$<1>; |
| 247.1 | 11:33,1.1 | Autograph; |
| 247.2 | 11:33,1.2 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>$; $\left.\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; Ex-158\$ $<1>$; |
| 248.1 | 11:34,1.1 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 13 * \%\right]<2>;\left[\mathrm{P}^{\wedge} 13 \wedge \mathrm{c} \%\right]<2>;\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;\left[\mathrm{D} 06^{*}\right]<2>;[\mathrm{NA}-27]<2>;} \\ & {[\mathrm{Ex}-142]<2>; \text { Ex-158\$<1>; }} \end{aligned}$ |
| 248.2 | 11:34,1.2 | [01^2]<3>; Autograph; |
| 249.1 | 11:35,1.1 | [01^2]<3>; [NA-27]<2>; Autograph; |
| 249.2 | 11:35,1.2 | [D06*]<2>; Ex-152\#<1>; |


| 250.1 | 11:37,1.1 | $\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;\left[1241^{*} \%\right]<2>;[$ sy^ $\mathrm{p} \%]<3>;[$ sa^a $\%]<2>;[$ sa^ $\mathrm{b} \%]<2>;$ <br> [NA-27]<2>; [Eus^a\%]<2>; [Eus^b\%]<3>; [Or^a\%]<2>; Ex-158\$<1>; |
| :---: | :---: | :---: |
| 250.2 | 11:37,1.2 | [D06*]<2>; [326]<4>; [sy^h\%]<5>; Ex-152\#<1>; |
| 250.3 | 11:37,1.3 | [Ex-136]<3>; Autograph; |
| 250.4 | 11:37,1.4 | [0150]<7>; [vg^b]<4>; [Cl^a $\%$ ] $<2>$; Ex-159\$<1>; |
| 251.1 | 11:38,1.1 | [P^46*]<2>; [365\%]<2>; [1^249]<5>; Autograph; |
| 251.2 | 11:38,1.2 | $\left[\mathrm{D} 06^{*}\right]<2>;[\mathrm{Cl} \wedge \mathrm{a} \%]<2>;\left[\mathrm{Eus}^{\wedge} \mathrm{a} \%\right]<2>;\left[\mathrm{Or}^{\wedge} \mathrm{a} \%\right]<2>;\left[\mathrm{Or}^{\wedge} \mathrm{b} \%\right]<2>;[\mathrm{Ex}-155]<2>$; Ex- $158 \$<1>;$ |
| 252.1 | 11:39,1.1 | Autograph; |
| 252.2 | 11:39,1.2 | $\left[\mathrm{P}^{\wedge} 13^{*} \%\right]<2>;\left[\mathrm{P}^{\wedge} 13^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{sa}^{\wedge} \mathrm{a} \%\right]<2>;\left[\mathrm{sa}{ }^{\wedge} \mathrm{b} \%\right]<2>;\left[\mathrm{Cl}{ }^{\wedge} \mathrm{a} \%\right]<2>;$ [Ex-153]<2>; Ex-158\$<1>; |
| 253.1 | 11:39,2.1 | Autograph; |
| 253.2 | 11:39,2.2 | $[1 \%]<3>;\left[1505^{* \%} \%<2>;\left[{ }^{\wedge} 249\right]<5>;[\right.$ sa^a$\%]<2>;[$ sa^b\%] $] 2>;[\mathrm{bo} \wedge \mathrm{b} \%]<2>$; $[$ Eus^a\%]<2>; [Eus^b\%]<3>; [Ex-136]<3>; Ex-158\$<1>; |
| 254.1 | 11:40,1.1 | Autograph; |
| 254.2 | 11:40,1.2 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>$ > [ $\left.\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; [365\%] $]<2>$; [1241*\%]<2>; Ex-158\$<1>; |
| 254.3 | 11:40,1.3 | $\mathrm{Cl}^{\wedge} \mathrm{a} \%<2>$; |
| 255.1 | 12:1,1.1 | Autograph; |
| 255.2 | 12:1,1.2 | [01*]<3>; [1\%]<3>; Ex-158\$<1>; |
| 256.1 | 12:1,2.1 | Autograph; |
| 256.2 | 12:1,2.2 | [P^46*]<2>; [Ex-147]<3>; Ex-158\$<1>; |
| 257.1 | 12:2,1.1 | Autograph; |
| 257.2 | 12:2,1.2 | $\left[\mathrm{P}^{\wedge} 13^{* \%}\right]<2>;\left[\mathrm{P}^{\wedge} 13^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;\left[\mathrm{D} 06^{*}\right]<2>;\left[\mathrm{D} 06^{\wedge} \mathrm{c} \%\right]<4>;$ Ex-158\$<1>; |
| 258.1 | 12:2,2.1 | Autograph; |
| 258.2 | 12:2,2.2 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>$; [ $\left.\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; [TR] $]$ 5>; Ex-158\$<1>; |
| 259.1 | 12:3,1.1 | Autograph; |
| 259.2 | 12:3,1.2 | [P^13*\%]<2>; [P^13^c\%]<2>; [P^46*]<2>; [P^46^c]<4>; [D06*]<2>; [044*]<5>; Ex- $158 \$<1>;$ |
| 260.1 | 12:3,2.1 | $\begin{aligned} & \hline[\mathrm{P} 025 * \%]<2>;[104 * \%]<3>;[326]<4>;[1241 * \%]<2>;[\mathrm{vg} \wedge \mathrm{cl}]<5>;[\mathrm{it}-\mathrm{ar}]<5>;[\mathrm{NA}- \\ & 27]<2>;[\mathrm{Ex}-136]<3>; \mathrm{Ex}-158 \$<1>; \end{aligned}$ |
| 260.2 | 12:3,2.2 | [1739^${ }^{\text {c }}$ ]<5>; [Ex-156\#]<1>; [Ex-159\$]<1>; Ex-163\$<1>; |
| 260.3 | 12:3,2.3 | [P^13*\%]<2>; [044^c]<5>; [sy^p\%]<3>; [bo^a\%] ${ }^{\text {a }}$ [2>; [Ex-147]<3>; Autograph; |
| 261.1 | 12:3,3.1 | Autograph; |
| 261.2 | 12:3,3.2 | $\left[\mathrm{P}^{\wedge} 13 * \%\right]<2>;\left[\mathrm{P}^{\wedge} 13^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{it}-\mathrm{b}^{*}\right]<2>;[\mathrm{it}-\mathrm{d}]<3>;[\mathrm{Ex}-153]<2>;$ Ex- $158 \$<1>;$ |
| 262.1 | 12:3,4.1 | Autograph; |
| 262.2 | 12:3,4.2 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 13 * \%\right]<2>;\left[\mathrm{P}^{\wedge} 13^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{D} 06^{*}\right]<2>;\left[\mathrm{D} 06^{\wedge} \mathrm{c} \%\right]<4>;[\mathrm{Ex}-153]<2>;} \\ & \mathrm{Ex}-158 \$<1>; \end{aligned}$ |
| 263.1 | 12:4,1.1 | Autograph; |
| 263.2 | 12:4,1.2 | [D06*]<2>; [L020*\%]<2>; [L020^c\%]<2>; [it-ar]<5>; [it-b*]<2>; Ex-158\$<1>; |
| 264.1 | 12:4,2.1 | Autograph; |
| 264.2 | 12:4,2.2 | $\left[\mathrm{P}^{\wedge} 13^{*} \%\right]<2>;\left[\mathrm{P}^{\wedge} 13^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;[1505 * \%]<2>;\left[\mathrm{it}-z^{*} \%\right]<3>;$ [it-z^c\%]<3>; Ex-158\$<1>; |


| 265.1 | 12:5,1.1 | Autograph; |
| :---: | :---: | :---: |
| 265.2 | 12:5,1.2 | $\begin{aligned} & {[\mathrm{D} 06 *]<2>;[81 * \%]<2>;[614 *]<7>;[630 \%]<3>;[1241 * \%]<2>;[\text { it-b*]<2>; Ex- }} \\ & 158 \$<1>; \end{aligned}$ |
| 266.1 | 12:5,2.1 | Autograph; |
| 266.2 | 12:5,2.2 | [ $\left.\mathrm{P}^{\wedge} 13 * \%\right]<2>$; $\left[\mathrm{P}^{\wedge} 13{ }^{\wedge} \mathrm{c} \%\right.$ ] $<2>$; Ex-158\$<1>; |
| 267.1 | 12:7,1.1 | Autograph; |
| 267.2 | 12:7,1.2 | $\begin{aligned} & {[044 *]<5>;[104 * \%]<3>;[326]<4>;[365 \%]<2>;[630 \%]<3>;[945]<7>;[T R]<5>; \text { Ex- }} \\ & 158 \$<1>; \end{aligned}$ |
| 268.1 | 12:7,2.1 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 13 * \%\right]<2>;\left[\mathrm{P}^{\wedge} 13^{\wedge} \mathrm{c} \%\right]<2>;[\mathrm{P} 025 * \%]<2>;[\mathrm{NA}-27]<2>;[\mathrm{Ex}-142]<2>;[\mathrm{Ex}-} \\ & 143]<4>; \mathrm{Ex}-158 \$<1>; \end{aligned}$ |
| 268.2 | 12:7,2.2 | [01^2]<3>; [D06*]<2>; Autograph; |
| 269.1 | 12:9,1.1 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 13 * \%\right]<2>;\left[\mathrm{P}^{\wedge} 13^{\wedge} \mathrm{c} \%\right]<2>;\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;[01 \wedge 2]<3>;\left[\mathrm{D} 06^{*}\right]<2>;[\mathrm{NA}-27]<2>;[\mathrm{Ex}-} \\ & 153]<2>; \mathrm{Ex}-158 \$<1>; \end{aligned}$ |
| 269.2 | 12:9,1.2 | Autograph; |
| 270.1 | 12:9,2.1 | Autograph; |
| 270.2 | 12:9,2.2 | 440<7>; |
| 270.3 | 12:9,2.3 | $1241 * \%<2>$; |
| 271.1 | 12:11,1.1 | [ $\left.\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; Autograph; |
| 271.2 | 12:11,1.2 | $\begin{aligned} & {[01 *]<3>;[\mathrm{P} 025 * \%]<2>;[\mathrm{it}-\mathrm{d}]<3>;[\text { it-z*\% } \%<3>;[\text { it-z^c\% }]<3>;[\text { Ex-145]<2>; [Ex- }} \\ & 153]<2>; \text { Ex-158\$<1>; } \end{aligned}$ |
| 271.3 | 12:11,1.3 | [D06*]<2>; [048\%]<2>; [104*\%]<3>; Ex-159\$<1>; |
| 272.1 | 12:13,1.1 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;[01 *]<3>;[\mathrm{P} 025 * \%]<2>;[\mathrm{NA}-27]<2>;[\mathrm{Ex}-145]<2>; \text { Ex- }} \\ & 158 \$<1>; \end{aligned}$ |
| 272.2 | 12:13,1.2 | [D06*]<2>; [H015*\%]<2>; Autograph; |
| 272.3 | 12:13,1.3 | 048\%<2>; |
| 273.1 | 12:15,1.1 | Autograph; |
| 273.2 | 12:15,1.2 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>$; $\left.\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; Ex-158\$<1>; |
| 274.1 | 12:15,2.1 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46 *\right]<2>;[\mathrm{H} 015 * \%]<2>;[6]<7>;[104 * \%]<3>;[365 \%]<2>;[\mathrm{sy} \mathrm{\wedge} \%]<5>;} \\ & {[\mathrm{sy} \wedge \mathrm{p} \%]<3>;[\text { Ex-136]<3>; Autograph; }} \end{aligned}$ |
| 274.2 | 12:15,2.2 | [D06*]<2>; [Ex-142]<2>; [Ex-155]<2>; Ex-159\$<1>; |
| 275.1 | 12:15,3.1 | $\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>$; [D06*]<2>; [H015*\%]<2>; [NA-27]<2>; Autograph; |
| 275.2 | 12:15,3.2 | [104*\%]<3>; [326]<4>; Ex-152\#<1>; |
| 276.1 | 12:16,1.1 | Autograph; |
| 276.2 | 12:16,1.2 |  |
| 277.1 | 12:16,2.1 | $\begin{aligned} & {\left[\mathrm{C}^{*} \%\right]<2>;\left[\mathrm{C}^{\wedge} 2 \%\right]<2>;\left[\mathrm{C}^{\wedge} 3 \%\right]<2>;\left[\mathrm{D} 06^{\wedge} 1 \%\right]<4>;[\mathrm{NA}-27]<2>;[\mathrm{Ex}-142]<2>; \text { Ex- }} \\ & 158 \$<1>; \end{aligned}$ |
| 277.2 | 12:16,2.2 | [01^2]<3>; [D06*]<2>; Autograph; |
| 277.3 | 12:16,2.3 | [ $\left.\mathrm{P}^{\wedge} 46 *\right]<2>$; [P^46^c]<4>; [Cl^a $\%$ ]<2>; Ex-159\$<1>; |
| 278.1 | 12:18,1.1 | $\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; $[\mathrm{sy}$ ^p\%]<3>; [bo^a\%]<2>; Autograph; |
| 278.2 | 12:18,1.2 | [D06*]<2>; [vg^cl]<5>; Ex-156\#<1>; |
| 279.1 | 12:18,2.1 | [D06*]<2>; [104*\%]<3>; [326]<4>; [365\%]<2>; Autograph; |
| 279.2 | 12:18,2.2 | $\mathrm{P}^{\wedge} 46^{*<2>; ~[01 \wedge 2]<3>; ~ E x-156 \#<1>; ~}$ |
| 279.3 | 12:18,2.3 | K*\%<2>; it-d<3>; |
| 280.1 | 12:19,1.1 | Autograph; |


| 280.2 | 12:19,1.2 | [01*]<3>; [P025*\%]<2>; [048\%]<2>; [326]<4>; Ex-158\$<1>; |
| :---: | :---: | :---: |
| 281.1 | 12:19,2.1 | Autograph; |
| 281.2 | 12:19,2.2 | Ex-136<3>; |
| 282.1 | 12:20,1.1 | Autograph; |
| 282.2 | 12:20,1.2 | TR<5>; |
| 283.1 | 12:21,1.1 | [Ex-136]<3>; Autograph; |
| 283.2 | 12:21,1.2 | [D06*]<2>; [Ex-142]<2>; Ex-158\$<1>; |
| 284.1 | 12:22,1.1 | Autograph; |
| 284.2 | 12:22,1.2 | D06*<2>; |
| 285.1 | 12:22,2.1 | Autograph; |
| 285.2 | 12:22,2.2 | D06*<2>; |
| 286.1 | 12:23,1.1 | [D06^c\%]<4>; [D06^1\%]<4>; [D06^2]<5>; [Ex-143]<4>; Autograph; |
| 286.2 | 12:23,1.2 | Ex-155<2>; |
| 287.1 | 12:23,2.1 | Autograph; |
| 287.2 | 12:23,2.2 | [D06*]<2>; [vg^b]<4>; [it-b*]<2>; Ex-158\$<1>; |
| 288.1 | 12:23,3.1 | Autograph; |
| 288.2 | 12:23,3.2 | [D06*]<2>; [Hil\%]<2>; Ex-158\$<1>; |
| 288.3 | 12:23,3.3 | 01*<3>; |
| 289.1 | 12:24,1.1 | Autograph; |
| 289.2 | 12:24,1.2 | [ $\left.\mathrm{P}^{\wedge} 46 *\right]<2>$; $\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; [1505*\%]<2>; [TR]<5>; Ex-158\$<1>; |
| 290.1 | 12:24,2.1 | Autograph; |
| 290.2 | 12:24,2.2 | $\begin{aligned} & \hline\left[\mathrm{P}^{\wedge} 46 *\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;[\mathrm{L} 020 * \%]<2>;\left[\mathrm{L} 020^{\wedge} \mathrm{c} \%\right]<2>;[\mathrm{sy} \wedge \mathrm{~h} \%]<5>;[\mathrm{sy} \wedge \mathrm{p} \%]<3>; \\ & \mathrm{Ex}-158 \$<1>; \end{aligned}$ |
| 291.1 | 12:25,1.1 | [326]<4>; Autograph; |
| 291.2 | 12:25,1.2 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[01^{\wedge} 2\right]<3>;\left[\mathrm{D} 06^{*}\right]<2>;\left[\mathrm{it-z}^{\wedge} \mathrm{c} \%\right]<3>;[\text { Ex-156\#] }<1>;[\text { Ex-158\$]<1>; Ex- }} \\ & 163 \$<1>; \end{aligned}$ |
| 292.1 | 12:25,2.1 | [D06*]<2>; [D06^c\%]<4>; [D06^1\%]<4>; [D06^2]<5>; Autograph; |
| 292.2 | 12:25,2.2 | $\left[\mathrm{P}^{\wedge} 46 *\right]<2>;\left[01^{\wedge} 2\right]<3>$; [0285\%]<2>; [Ex-155]<2>; Ex-159\$<1>; |
| 292.3 | 12:25,2.3 | [Ex-141]<4>; Ex-151\#<1>; |
| 293.1 | 12:25,3.1 | $\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; Autograph; |
| 293.2 | 12:25,3.2 | $\begin{aligned} & {[0285 \%]<2>;[6]<7>;[614 *]<7>;[630 \%]<3>;[1241 * \%]<2>;[i t-t \%]<3>;[\text { Ex- }} \\ & 153]<2>; \text { Ex-158\$<1>; } \end{aligned}$ |
| 294.1 | 12:26,1.1 | [6]<7>; Autograph; |
| 294.2 | 12:26,1.2 | [D06*]<2>; [Ex-155]<2>; Ex-158\$<1>; |
| 295.1 | 12:27,1.1 | [0285\%]<2>; [326]<4>; Autograph; |
| 295.2 | 12:27,1.2 | Ex-156\#<1>; |
| 295.3 | 12:27,1.3 | $\begin{aligned} & \hline\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{D} 06^{*}\right]<2>;[\mathrm{L} 020 * \%]<2>;\left[\mathrm{L} 020^{\wedge} \mathrm{c} \%\right]<2>;\left[323^{*}\right]<7>;[\mathrm{Ex}-147]<3>; \\ & \mathrm{Ex}-159 \$<1>; \end{aligned}$ |
| 296.1 | 12:28,1.1 | $\begin{aligned} & {\left[\mathrm{C}^{*} \%\right]<2>;\left[\mathrm{C}^{\wedge} 2 \%\right]<2>;\left[\mathrm{C}^{\wedge} 3 \%\right]<2>;[\mathrm{vg} \wedge \mathrm{~b}]<4>;[\mathrm{it}-\mathrm{ar}]<5>;[\mathrm{sa} \wedge \mathrm{a} \%]<2>;\left[\mathrm{sa}^{\wedge} \mathrm{b} \%\right]<2>;} \\ & {[\mathrm{bo} \wedge \mathrm{~b} \%]<2>;[\text { NA-27] }<2>;[\text { Ex-136] }<3>; \text { Autograph; }} \end{aligned}$ |
| 296.2 | 12:28,1.2 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46 *\right]<2>;[6]<7>;[326]<4>;[365 \%]<2>;[\text { Ex-140 }]<3>;[\text { Ex-141]<4>; }[\text { Ex-150 }]<2>;} \\ & \text { Ex-152\#<1>; } \end{aligned}$ |


| 297.1 | 12:28,2.1 | [D06^c\%]<4>; [D06^1\%]<4>; [D06^2]<5>; [326]<4>; [TR]<5>; [Ex-136]<3>; Autograph; |
| :---: | :---: | :---: |
| 297.2 | 12:28,2.2 | [P^46*]<2>; [P^46^c]<4>; [bo^a\%]<2>; Ex-158\$<1>; |
| 297.3 | 12:28,2.3 | [Ex-142]<2>; Ex-156\#<1>; |
| 298.1 | 12:28,3.1 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>$; [ $\left.\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{C}\right]<4>$; [D06*]<2>; Autograph; |
| 298.2 | 12:28,3.2 | 365\%<2>; |
| 298.3 | 12:28,3.3 | Ex-155<2>; |
| 298.4 | 12:28,3.4 | $\left[01^{\wedge} 2\right]<3>;\left[\mathrm{D} 06^{\wedge} 1 \%\right]<4>;[\mathrm{P} 025 * \%]<2>;[614 *]<7>;[945]<7>;[\mathrm{it}-\mathrm{d}]<3>;[\mathrm{Ex}-$ $153]<2>; \operatorname{Ex}-158 \$<1>;$ |
| 299.1 | 12:29,1.1 | Autograph; |
| 299.2 | 12:29,1.2 | D06*<2>; |
| 300.1 | 13:4,1.1 | Autograph; |
| 300.2 | 13:4,1.2 | $[\mathrm{C} * \%]<2>;[\mathrm{C} \wedge 2 \%]<2>;\left[\mathrm{C}^{\wedge} 3 \%\right]<2>;[\mathrm{vg} \wedge \mathrm{b}]<4>;[\mathrm{it}-\mathrm{ar}]<5>;\left[\mathrm{C}{ }^{\wedge} \mathrm{A} \%\right]<2>$; [Eus^a\%]<2>; [Ex-145]<2>; [Ex-155]<2>; Ex-158\$<1>; |
| 301.1 | 13:5,1.1 | [1739^${ }^{\wedge}$ c] ${ }^{\text {c }}$ [ $>$; Autograph; |
| 301.2 | 13:5,1.2 | [81*\%]<2>; [Ex-153]<2>; Ex-158\$<1>; |
| 302.1 | 13:5,2.1 | [D06*]<2>; [81*\%]<2>; [365\%]<2>; [945]<7>; [1241*\%]<2>; [1505*\%]<2>; <br> [TR]<5>; [NA-27]<2>; Epiph^a\%<2>; [Ex-155]<2>; Ex-158\$<1>; |
| 302.2 | 13:5,2.2 | [P^46*]<2>; [Ex-143]<4>; [Ex-148]<4>; Autograph; |
| 303.1 | 13:6,1.1 | [P^46*]<2>; [D06*]<2>; [0243*\%]<5>; [0243^ ¢ \%] <5>; [vg^b]<4>; Autograph; |
| 303.2 | 13:6,1.2 | $\begin{aligned} & \hline[01 *]<3>;[\mathrm{C} * \%]<2>;[\mathrm{P} 025 * \%]<2>;[0285 \%]<2>;[\mathrm{sy} \mathrm{p} \%]<3>;[\mathrm{Ex}-145]<2>;[\mathrm{Ex}- \\ & 146]<4>; \text { Ex-151\#<1>; } \end{aligned}$ |
| 304.1 | 13:7,1.1 | Autograph; |
| 304.2 | 13:7,1.2 | D06*<2>; |
| 305.1 | 13:8,1.1 | Autograph; |
| 305.2 | 13:8,1.2 | D06*<2>; |
| 306.1 | 13:9,1.1 | Autograph; |
| 306.2 | 13:9,1.2 | [K*\%]<2>; [L020*\%]<2>; [L020^c\%]<2>; [TR]<5>; Ex-158\$<1>; |
| 307.1 | 13:9,2.1 | [P^46*]<2>; [P^46^c]<4>; [D06*]<2>; [sa^a a$]<2>;\left[\mathrm{sa}^{\wedge} \mathrm{b} \%\right]<2>;[\mathrm{bo} \mathrm{a} \%]<2>;$ [bo^b\%]<2>; [NA-27]<2>; [Ex-142]<2>; Ex-158\$<1>; |
| 307.2 | 13:9,2.2 | [01^2]<3>; Autograph; |
| 308.1 | 13:10,1.1 | Autograph; |
| 308.2 | 13:10,1.2 | [D06*]<2>; [0243*\%]<5>; [0243^c\%]<5>; Ex-158\$<1>; |
| 309.1 | 13:12,1.1 | Autograph; |
| 309.2 | 13:12,1.2 |  |
| 310.1 | 13:15,1.1 | Autograph; |
| 310.2 | 13:15,1.2 |  |
| 310.3 | 13:15,1.3 | K*\%<2>; |
| 311.1 | 13:16,1.1 | Autograph; |
| 311.2 | 13:16,1.2 | [P^46*]<2>; [P^46^ c]<4>; [D06*]<2>; [81*\%]<2>; [1505*\%]<2>; Ex-158\$<1>; |
| 312.1 | 13:17,1.1 | Autograph; |
| 312.2 | 13:17,1.2 | D06*<2>; |


| 313.1 | 13:18,1.1 | Autograph; |
| :---: | :---: | :---: |
| 313.2 | 13:18,1.2 | D06*<2>; |
| 314.1 | 13:20,1.1 | Autograph; |
| 314.2 | 13:20,1.2 | ```[D06*]<2>;[104*%]<3>;[323*]<7>; [vg^cl]<5>; [it-ar]<5>; [it-z*%]<3>; [it- z^c%]<3>; [sy^h%]<5>;[sy^p%]<3>; [bo^a%]<2>; [bo^b%]<2>; [Ex-145]<2>; [Ex- 154]<3>; Ex-158$<1>;``` |
| 315.1 | 13:21,1.1 | [ $\left.\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; [bo^a\%] ${ }^{\text {a }}$ [2>; [Ex-143]<4>; Autograph; |
| 315.2 | 13:21,1.2 | $\begin{aligned} & {\left[\mathrm{C}^{*} \%\right]<2>;[\mathrm{C} \wedge 2 \%]<2>;\left[\mathrm{C}^{\wedge} 3 \%\right]<2>;[\mathrm{sa} \wedge \mathrm{a} \%]<2>;[\mathrm{sa} \wedge \mathrm{~b} \%]<2>;[\mathrm{Ex}-145]<2>;[\mathrm{Ex}-} \\ & 156 \#]<1>;[\mathrm{Ex}-158 \$]<1>; \mathrm{Ex}-163 \$<1>; \end{aligned}$ |
| 315.3 | 13:21,1.3 | Ex-136<3>; |
| 316.1 | 13:21,2.1 | $\begin{aligned} & {\left[01^{\wedge} 2\right]<3>;\left[\mathrm{C}^{\wedge} 3 \%\right]<2>;\left[\mathrm{D} 06^{*}\right]<2>;\left[33^{\wedge} \mathrm{c}\right]<3>;[\mathrm{sa} \wedge \mathrm{~b} \%]<2>;[\mathrm{bo} \mathrm{~b} \%]<2>;[\mathrm{NA}-} \\ & 27]<2>;[\text { Ex-139] }] 3>\text {; Autograph; } \end{aligned}$ |
| 316.2 | 13:21,2.2 | [bo^a\%] $<2>$; [Ex-152\#]<1>; [Ex-158\$]<1>; Ex-164\$<1>; |
| 316.3 | 13:21,2.3 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>$; [ $\left.\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; Ex-159\$<1>; |
| 316.4 | 13:21,2.4 | [2492]<7>; [it-f*]<4>; [Ex-151\#]<1>; [Ex-160\$]<1>; Ex-163\$<1>; |
| 317.1 | 13:21,3.1 | [P^46*]<2>; [D06*]<2>; [D06^^c\%]<4>; [D06^1\%]<4>; [D06^2]<5>; [104*\%]<3>; [326]<4>; [365\%]<2>; [629^c]<5>; [pm^b]<7>; [sy^p\%]<3>; Autograph; |
| 317.2 | 13:21,3.2 | $\begin{aligned} & {\left[\mathrm{C}^{*} \% /\right]<2>;[\mathrm{C} \wedge 2 \%]<2>;[\mathrm{C} \wedge 3 \%]<2>;[\mathrm{P} 025 * \%]<2>;[1505 * \%]<2>; \mathrm{Ex}-151 \#<1>;[\mathrm{Ex}-} \\ & 155]<2>; \end{aligned}$ |
| 318.1 | 13:21,4.1 | Autograph; |
| 318.2 | 13:21,4.2 | [P^46*]<2>; [P^46^c]<4>; [C^3\%]<2>; [D06*]<2>; [D06^c\%]<4>; [D06^1\%]<4>; [D06^2]<5>; [6]<7>; [104*\%]<3>; [365\%]<2>; [1241*\%]<2>; [1505*\%]<2>; [sy^h\%]<5>; [Ex-143]<4>; Ex-158\$<1>; |
| 319.1 | 13:22,1.1 | [P^46*]<2>; [104*\%]<3>; [365\%]<2>; Autograph; |
| 319.2 | 13:22,1.2 | [81*\%] ${ }^{\text {c }}$ 2>; [1241*\%]<2>; [Ex-143]<4>; [Ex-145]<2>; Ex-151\#<1>; |
| 320.1 | 13:23,1.1 | [sy^ h\%] $<5 \gg$; Autograph; |
| 320.2 | 13:23,1.2 | [01^2]<3>; [Ex-143]<4>; [Ex-148]<4>; Ex-158\$<1>; |
| 321.1 | 13:24,1.1 | Autograph; |
| 321.2 | 13:24,1.2 | [ $\left.\mathrm{P}^{\wedge} 46^{*}\right]<2>$; [ $\left.\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>$; Ex-158\$<1>; |
| 322.1 | 13:25,1.1 | Autograph; |
| 322.2 | 13:25,1.2 | D06*<2>; |
| 322.3 | 13:25,1.3 | P^46*<2>; |
| 323.1 | 13:25,2.1 | $\begin{aligned} & {\left[\mathrm{P}^{\wedge} 46^{*}\right]<2>;\left[\mathrm{P}^{\wedge} 46^{\wedge} \mathrm{c}\right]<4>;[01 *]<3>;[1 \%]<3>;[6]<7>;[\mathrm{vg} \mathrm{~b}]<4>;[\mathrm{sa} \wedge \mathrm{a} \%]<2>;} \\ & {\left[\mathrm{sa} \mathrm{a}^{\wedge} \%\right]<2>;[\mathrm{NA}-27]<2>;[\text { Ex-145] } 22>; \text { Ex-158\$<1>; }} \end{aligned}$ |
| 323.2 | 13:25,2.2 | Autograph; |

## 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 $\mathrm{A}=$ (the number of places of variation A has of the text $) \div$ (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.

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[^0]:    ${ }^{1}$ 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.

[^1]:    ${ }^{3}$ 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 the reading of the parent exemplar's sibling when it develops.

[^2]:    ${ }^{5}$ 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.

[^3]:    ${ }^{1}$ 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: $\operatorname{vg}^{\wedge} \mathrm{cl}, \mathrm{cg}^{\wedge} \mathrm{s}, \mathrm{vg}^{\wedge} \mathrm{st}$, and $\mathrm{vg}^{\wedge} \mathrm{ww}$; Scrivener's TR; Hodges-Farstad HF; Robinson-Pierpont's RP; and NA27. These do not contribute to reconstructing the stemma.

[^4]:    ${ }^{5}$ Aland and Aland, p. 83.
    ${ }^{6}$ The witnesses in the $19^{\text {th }}$ to the $21^{\text {st }}$ centuries are printed editions that do not contribute to the reconstruction of the genealogical history.

[^5]:    ${ }^{7}$ 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.

[^6]:    ${ }^{9}$ Quantitative affinity is supplemented by the sibling gene to affirm sibling relationship.

[^7]:    ${ }^{1}$ 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).

[^8]:    ${ }^{4}$ Chapter Two of The Genealogical History of the Greek Text of the Gospel of Matthew.

[^9]:    ${ }^{5}$ 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.

[^10]:    ${ }^{6}$ While this is true for the book of Hebrews, for some of the other books the software may fail to uniquely identify the place of origin for a small percentage of variants.

[^11]:    ${ }^{7}$ 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.
    ${ }^{8}$ 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.

[^12]:    ${ }^{9}$ 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.
    ${ }^{10}$ 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.

[^13]:    ${ }^{1}$ Again, the term manuscript is used in its broader sense to include manuscripts, translations, quotations from church fathers, and reconstructed exemplars.

[^14]:    ${ }^{2}((4,993-323) \div 4,993) \times 100=93.53 \%$.

[^15]:    ${ }^{3}$ 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.

[^16]:    ${ }^{5}$ 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: 1:9,1.3[Ex-163\$]; 3:9,1.1[Ex-163\$]; 5:12,2.1; $7: 1,1.2 ; 7: 27,3.2 ; 10: 1,4.2 ; 11: 4,2.2 ; 11: 13,1.2 ; 11: 32,1.1 ; 11: 35,1.2 ; 11: 37,1.2 ; 12: 15,3.2 ; 12: 28,1.2 ; 13: 21,2.2[\mathrm{Ex}-$ 164\$]; Count $=14$.

[^17]:    ${ }^{11} 1: 8,3 ; 5: 4,2 ; 7: 1,1 ; 7: 11,27: 22,1 ; 7: 27,3 ; 9: 19,2 ; 9: 26,2 ; 11: 8,2 ; 11: 13,1 ; 12: 15,3 ; 12: 18,2 ; 12: 27,1$.

[^18]:    ${ }^{12}$ Bart D. Ehrman, The Orthodox Corruption of Scripture (New York: Oxford University Press, 1993), xii; italics his.

[^19]:    ${ }^{13}$ Ehrman, p. 150-51.

[^20]:    ${ }^{14}$ Ehrman, p. 96.

[^21]:    151 Cor. 15:3; Gal. 1:4; Heb. 1:3; 1 Pet. 2:24; 1 Jn. 1:9; "2:2; 3:5; 4:10; Rev. 1:5.
    ${ }^{16}$ Ehrman, p. 96.
    ${ }^{17}$ Bruce M. Metzger, A Textual Commentary on the Greek New Testament, London: United Bible Societies,

[^22]:    ${ }^{18}$ Ehrman, p. 236.

[^23]:    ${ }^{19}$ Ehrman, p. 136.
    ${ }^{20}$ No stemma is provided for this variation because it is not in the NA-27 textual apparatus, but it would be similar to Figure 4.7.

[^24]:    ${ }^{21}$ Ehrman, p. 161.
    ${ }^{22}$ Ehrman, p. 87.
    ${ }^{23}$ Ehrman, p. 154-5.

[^25]:    ${ }^{24}$ Ehrman, p. 254.

[^26]:    ${ }^{25}$ Ehrman, p. 96.

[^27]:    ${ }^{26}$ See $6: 14,1$ for the other one with $33 \%$ probability.

[^28]:    ${ }^{1}$ 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.

[^29]:    ${ }^{2}$ 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.

[^30]:    ${ }^{60}$ The names of exemplars created by the software have the prefix "Ex-" followed by a number; extant witnesses have the names provided in NA-27 as modified for compatibility with the software (discussed in Chapter Two of Volume 1).

