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**THE STRUCTURE OF HEBREWS  
AND OF 1ST AND 2ND PETER**

The Rev. Dr. George K. Barr

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The study of the scale relationships<sup>1</sup> between literary works introduces a new term - 'scalometry'. An introduction to this procedure and a scalometric analysis of the Pauline epistles were given in *Irish Biblical Studies*, Vol. 17, pp. 22-41. In that paper, the 'prime patterns'<sup>2</sup> of the Paulines were identified and were seen to be related through sharing a scaling system which has not thus far been found in other authors' work. When the cumulative sum graphs of Hebrews and 1 and 2 Peter are compared with those of the Paulines, it is evident that we have entered a different environment. It is also apparent that these three epistles have some characteristics in common. There is a similarity in texture, even though the patterns do not match over the complete works. This was noticed by the author in 1965, but only in recent years was the opportunity found to undertake detailed graphical comparison, section by section.

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<sup>1</sup> Barr, George K. PhD thesis, *Scale in Literature - with reference to the New Testament and other texts in English and Greek*. University of Edinburgh, 1994.

<sup>2</sup> 'Prime pattern' - a particular kind of cumulative sum graph. Sentence sequence graphs plot the sum of variations in sentence length progressively from the beginning to the end of the work or sample. While these traces may reflect the idiosyncrasies of authors, they may also be affected by interruptions, use of quotations etc. Prime patterns show an unusual consistency of form and feature, and show strong contrasts. Experience suggests that prime patterns reflect material which has been thought through and written out or dictated in one operation. Material written in several sittings, or conflated, tends to lose these contrasts. Such patterns representing 'primary' material (as against 'secondary' afterthoughts) are rare, but when they are found, can be a valuable indication of authorship.

Problems arise in relation to punctuation and embedded quotations. The punctuation given in the United Bible Societies' editions largely agrees with Souter regarding the principal stops, and the punctuation of UBS Third edition (corrected) has been generally used in this study except for one important passage. About the middle of 1 Peter there is a passage which is clearly on a larger scale than the remainder of the text. UBS3 has yielded to the temptation to divide the longer sentences, while Souter has continued the large scale treatment too far and extended it into what is clearly a small scale passage. The best balance of scale is obtained by using UBS3 generally, but following Souter in 3:8-4:6. This involves only the substitution of five colons, following Souter in each case, in place of the full stops or interrogation marks found in UBS3.

Quotations pose a problem in Hebrews. The first three chapters contain so many quotations that there is insufficient material left to gauge the scale. No attempt is made to solve this: it is accepted as an enigma and simply noted. Sometimes quotations which have been conceived at a different scale level from their new context require to be grouped, and this is necessary at Hebrews 10:5-9a and 10:30-31 where in each case three sentences of quoted material have been taken to form one word group.

One other problem remains before the graphs of the three works may be compared. Hebrews is very much longer than the other two epistles, and consequently has the scope to develop much more graphical detail. This appears as a finer and more complex saw-tooth pattern which obscures the underlying structure. It may be described as 'noise'. One solution to the problem is to take the sentences in batches of three and to use the average length of the sentences in each batch as one 'sentence unit'. This brings the scale of the detail in the graph of Hebrews more or less into line with the scale of the other two epistles. The graphs of Hebrews in Figs. 2 and 5 (see graphs at end of this paper) show the effect of doing this. Another more sophisticated technique called 'SuperQsums' is also introduced below.

With these modest adjustments, the prime patterns may now be identified. The whole of Hebrews, in fact, provides a prime

Barr, *Hebrews and 1st and 2nd Peter*, IBS 19, Jan. 1997 pattern. In 2 Peter, the form which 3:14-18 takes on the graph suggests that it is an addendum: otherwise the whole of the material provides a prime pattern.

1 Peter is more complex, as there is conflict between the prime pattern and the layout of discourse units. Both William Schutter<sup>3</sup> and Lauri Thurén<sup>4</sup> correctly take 1:13-2:10 to be one discourse unit, yet the graph shows a prime pattern beginning at 2:1. Experience with other prime patterns suggests that the author of 1 Peter began by writing 1:1-25 which concludes 'That word is the good news which was preached to you', and then laid the work aside for a time. On resuming his writing, he was unable to pick up the pattern established in the first chapter, and began a new prime pattern which ends with the 'Amen' at 5:11. The greetings of 5:12-14 (Peter's subscription?) appear as an addendum to the pattern. That a double beginning was made is confirmed by the graph in Fig. 1 which shows the first beginning at Chapter 1 with the new beginning of Chapter 2 superimposed (Souter was used for this small exercise). The patterns of the two beginnings are similar, but the scale of the second beginning is smaller than that of the first thrust, the average sentence lengths of the two beginnings being 36.9 words and 31.1 words respectively. (That is why the dashed line on the graph indicating the continuation of Chapter 1 does not match the superimposed dotted line which represents the second beginning at Chapter 2 - they are drawn to different average sentence lengths.)

The three prime patterns are shown in Fig. 3, scaled to a common base and superimposed. It can be seen that the traces follow each other except at the anomalous beginning of Hebrews where quotations disrupt the trace. What is important in these comparisons is the similarity of motif rather than the shape or size of features, although the overall proportions are also significant.

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<sup>3</sup> Schutter, William. *Hermeneutic and Composition in 1 Peter*. Tübingen: Mohr, 1989.

<sup>4</sup> Thurén, Lauri. *The Rhetorical Strategy of 1 Peter*. Åbo Academy Press, 1990.

Barr, **Hebrews and 1st and 2nd Peter**, *IBS 19, Jan. 1997*

The graphical motifs have been separated and compared in Fig. 4; this is simply a graphical separation and is unrelated to content.

A striking feature is the large scale section which lies in the centre of each prime pattern: this causes the steep rise in each graph in the centre section. From a graphical point of view, the changes in scale at the beginning and at the end of each of these large scale sections are remarkably consistent in that they occur at almost the same relative position in each prime pattern. As these works are of very different lengths, the positions of these changes are determined as a percentage of the text measured from the beginning of the prime pattern. They are placed as follows:

<u>EPISTLE</u>	<u>1ST</u> <u>CHANGE</u>	<u>2ND</u> <u>CHANGE</u>	<u>CENTRAL</u> <u>SECTION</u>	<u>PRIME</u> <u>PATTERN</u>	<u>TOTAL</u> <u>WORDS</u>
1 PETER	515 (41.9%)	853 (69.3%)	3:8-4:6	2:1-5:11	1230
2 PETER	443 (44.5%)	648 (65.1%)	2:4-16	1:1-3:13	995
HEBREWS	2132 (43.0%)	3269 (66.0%)	8:1-10:25	1:1-13:25	4953

When it is considered how varied the sentence sequence patterns found in one author's works can be, it is remarkable that these dramatic scale changes should be positioned so consistently in proportion to the lengths of the respective epistles. No comparable pattern has been found in a close examination of the graphs of over half a million words from six English authors, one Latin and four other Greek authors. Yet here the pattern occurs three times comprising just over 7,000 words.

It is noteworthy that the central section in each case contains the kernel of the epistle's message. In 1 Peter it begins to\ de\ te\ loj, 'finally', marking the change in scale (compare to\ loipo/n, 'finally' which serves the same purpose in the Paulines) and the theme might be entitled 'Partakers of the Sufferings of Christ'. In 2 Peter, the core of the message in 2:4-16 is 'The Judgement of God'. In Hebrews the main thrust begins at 8:1 with the reference to Jesus as high priest, seated at the right hand of the throne of the Majesty, and it ends with a picture of the exalted

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Christ, his work of reconciliation accomplished, awaiting the final Triumph. This leads to the climax of the appeal in 10:19-25.

Further light, however, is shed on the central sections when the text-linguistic analysis of Hebrews by George H. Guthrie<sup>5</sup> is combined with the scalometric analysis. Guthrie identifies cohesion shifts where changes in the structure of the texts occur, and also locates *inclusio* which are marked by characteristic phrases and vocabulary at the opening and at the closing of each inclusion. In Hebrews there is a major central inclusion (4:14-16 to 10:19-23 concerning the Priesthood of Christ) which embraces two embedded inclusions. These are shown on the graph in Fig. 2 and it is seen that the latter embedded inclusion corresponds to the large scale section of the scalometric analysis beginning at 8:1. The text marking the closing of an inclusion does not necessarily come right at the end of the discourse unit, and in this case the text runs on to the next cohesion shift at 10:39/11:1 where a new subject (Faith) is introduced. These two embedded inclusions are similar in length (35 and 30 sentences) but different in scale with average sentence lengths of 29.69 and 37.9 words respectively.

This pattern is compared with the patterns found in 1 and 2 Peter in Fig. 5. It is seen that there is a major inclusion in 1 Peter which opens at 2:21 with 'For to this you have been called, because Christ also suffered for you, leaving you an example, that you should follow in his steps. He committed no sin...' and closes at 4:1 with 'Since therefore Christ suffered in the flesh, arm yourselves with the same thought, for whoever has suffered in the flesh has ceased from sin...' (RSV). A break in this inclusion occurs at 3:8 and is marked by *to\ de\ te\ loj*. Again, like the major inclusion in Hebrews, the two parts of the inclusion in 1 Peter are similar in length (six sentences in each) but differ in scale with average sentence lengths of 33.83 and 46.33 words. At the end, the sense runs on to the next cohesion shift at 4:6/7 which is placed on the graph in the same relative position as the shift in Hebrews.

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<sup>5</sup> Guthrie, George H. *The Structure of Hebrews*. Leiden: Brill, 1994.

The prime pattern of 2 Peter shows similar features. The large scale section detected in the scalometric analysis (2:4-16) might also be considered to be an inclusion. The thought of the passage is enclosed within the reference at 2:4 to fallen angels being consigned to hell and kept chained in darkness, and the reference at 2:17 to the false prophets being consigned to eternal darkness. In this case the passage corresponds to the latter embedded inclusion in Hebrews and to the latter half of the major inclusion in 1 Peter (from *to\ de\ te/loj* to the end of the inclusion). The text prior to the passage (marked with a dotted line in the graph of 2 Peter in Fig. 5) has the same topographical features as the corresponding parts of the other epistles and shows a similar difference in average sentence length.

Comparison of the three graphs in Fig. 5 shows that all three epistles have central passages with similar scaling features and with minor variations, but displaying a common topography. The remaining portions of the graphs also show common features, except that the initial part of the graph of Hebrews is distorted by quotations for which allowance must be made. There is little doubt that these are indeed prime patterns, but different in form and character from those found in the Pauline epistles. There is great variation in the length of these works; the graphs in Fig. 6 show their relative sizes, but the proportions are maintained. The Pauline examples shown in Fig. 7 also maintain a common shape over considerable differences in length.

Earlier, a method of dealing with the differences in the traces of works conceived at different scales was given. This involved grouping the sentences of longer works in batches of three. An alternative way of dealing with this problem was devised resulting in the development of SuperQsums. (Apologies are offered for a term which smacks of jargon, but no other label could be found which so neatly describes this kind of graph.) An ordinary cumulative sum graph smoothes out the contrasts between the lengths of successive sentences and reveals something of the underlying structure, but in the longer works, fine saw-tooth detail persists in the graphs, making direct comparison with shorter works difficult. In an ordinary cumulative sum graph, the cumulative sum

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of variations in sentence length is plotted against the sequence of sentences. SuperQsums take the process a stage further. In a SuperQsum, the cumulative sum of the cumulative sums of variations in sentence length is plotted against the sequence of sentences. This has the effect of smoothing out all the saw-tooth patterns and reveals the basic structure of the work. It becomes possible to compare directly the sub-structures of works which are as different in length as Romans and Philemon. The ordinary cumulative sum graphs are used to compare size, shape and proportion, and the scales of each graph must be precisely and scientifically related. In employing SuperQsums, the aim is rather to compare the topography (the nature of the essential features) rather than the precise shape or size.

SuperQsums are not an infallible guide to authorship - they reflect decisions made concerning punctuation etc. - but it is useful to compare the SuperQsums of prime patterns produced by different authors. Four sets of SuperQsums are shown in Fig. 8. The selection from Seneca's works comprises six letters in which there is clear contrast between an opening narrative portion and a closing reflective portion. Seneca shows great variety in structural pattern but a general trend is apparent in this group of examples. These may be compared with the prime patterns of the thirteen Pauline epistles which have a large scale opening portion, sometimes theological, and a small scale closing portion, sometimes ethical. These Pauline prime patterns comprise 67% of the text of the corpus, or 88% if the small topics in the Corinthian correspondence are omitted. The Ignatian SuperQsums also reflect the strong prime patterns found in some of his letters. It is against these groups of epistles, which to a greater or lesser degree have prime pattern characteristics, that the SuperQsums of Hebrews and the Petrine epistles should be viewed. Obviously these three epistles (Fig. 8) lie close together although they are on very different scales. The sub-structures of Hebrews and 1 Peter might be said to be scaled-up versions of the sub-structure of 2 Peter.

Examples of this kind of correspondence at different scale levels have hitherto been found only in works which had a common author, and this possibility must be taken seriously in the case of



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Hebrews and 1 and 2 Peter. In a short article it is not possible to explore the implications of this proposal in detail, but a few points may be noted. There is no obvious intention on the part of the author(s) of 1 and 2 Peter to imitate Hebrews in terms of style, vocabulary or thought - or vice versa. The quality of Greek varies from 'among the best in the New Testament' in the case of Hebrews (Kümmel) to 'cumbrous and obscure' in the case of 2 Peter (Moffatt). It should be appreciated, however, that a writer, ancient or modern, may embrace a wide range of styles and vocabulary depending on circumstances. In my own experience, I have written a theological essay in careful English which ended with a poem, as that seemed to be the appropriate way to end the work. In contrast, I have written hundreds of technical reports giving advice to statutory bodies; these were written in a different style with different vocabulary. I have also written letters to defaulting contractors who had failed to keep their promises - letters which regrettably descended to the level of invective. These three classes of writing, all employing different styles and vocabulary, all with different purposes and destinations, may be compared with the excellent Greek of Hebrews, the sound Greek of 1 Peter, and the crude Greek of 2 Peter.

Some scholars would relate the content of 2 Peter to heretical systems which flourished in the second century, and are perhaps too ready to date material according to the period when a heresy was in full flower. But heresies have their roots in the failures of human nature, and the second century heresies had their roots in small but troublesome developments in the first century, in dangerous trends to which Paul and other early leaders were particularly sensitive.

If these three epistles come from the same hand, the Biblical evidence must not be ignored, and Silvanus (1 Peter 5:12) might well be taken to be Peter's amanuensis. The material, however, has not been taken down verbatim, as was the case with the Paulines. Rather Silvanus has been given freedom to convey the thought in his own way; hence the prime pattern is that of Silvanus.

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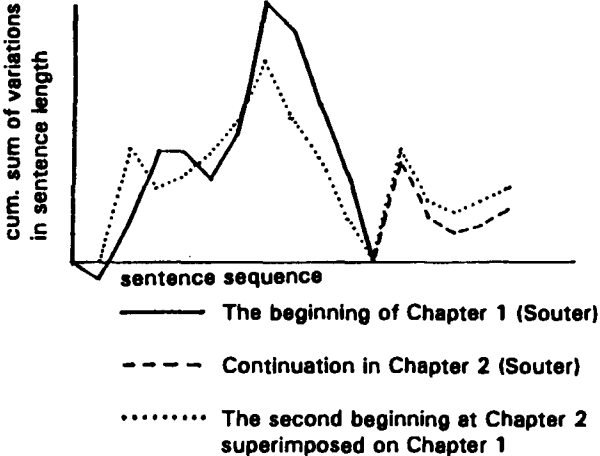
If that is indeed what happened, then we are presented with the intriguing possibility that no fewer than sixteen New Testament epistles come from the hands or minds of Paul and his travelling companion, Silvanus. This points to a close group of leaders at an early stage who argued out their faith in discussion, and whose different views are reflected in their writings. It may also raise the question whether material in the epistles of James and Jude might also reflect discussion within such a group.

The concept of the New Testament epistles being the product of a large number of unidentifiable authors has been supported by recent statistical work; Anthony Kenny stands alone in his less sceptical conclusion that 'on the basis of the (statistical) evidence in this chapter for my part I see no reason to reject the hypothesis that twelve of the Pauline Epistles (excluding Titus) are the work of a single, unusually versatile author'.<sup>6</sup> The more sceptical conclusions have resulted in part from the failure of statistical studies to identify the important scale variable. Consequently, many differences which are due to the kind of variations in scale which are commonly found within the works of one author have been mistakenly attributed to differences in authorship.

Prime patterns are produced sub-consciously, and experiment has shown that it is virtually impossible to reproduce them by conscious imitation. With regard to the patterns described above in Hebrews and 1 and 2 Peter, it is quite incredible that three different unknown authors, writing at unknown times and in unknown places, and who left behind no other identifiable works, should produce these three epistles which show such closely corresponding scaling structures coinciding precisely with identifiable discourse units relating to widely differing subjects. The scalometric evidence combined with that derived from text-linguistic analysis strongly supports the hypothesis that these three works come from the same hand. Internal evidence points to Silvanus as co-author with Peter in writing at least one of his

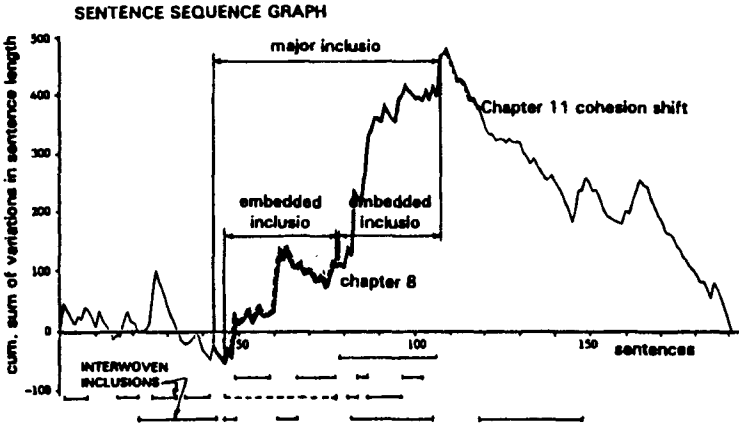
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<sup>6</sup> Kenny, Anthony. *A Stylometric Study of the New Testament* (Oxford: Clarendon Press, 1986), p. 100.



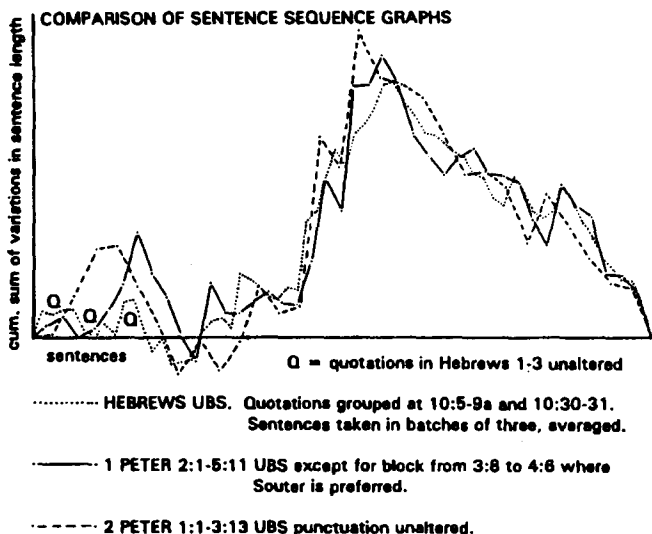
**THE TWO BEGINNINGS IN 1ST PETER**

**Fig. 1**



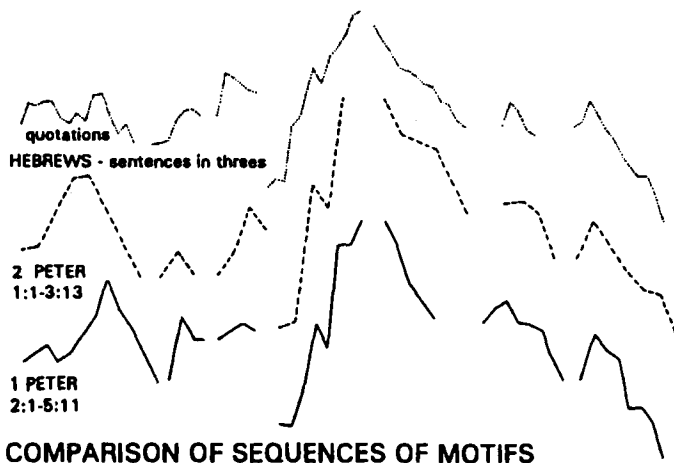
**LOCATION OF MAJOR INCLUSIO IN HEBREWS AS IDENTIFIED BY GEORGE H. GUTHRIE**

**Fig. 2**

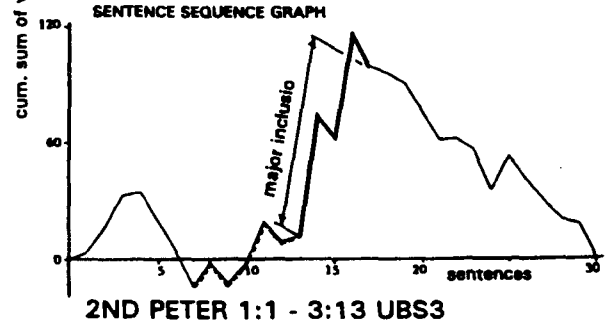
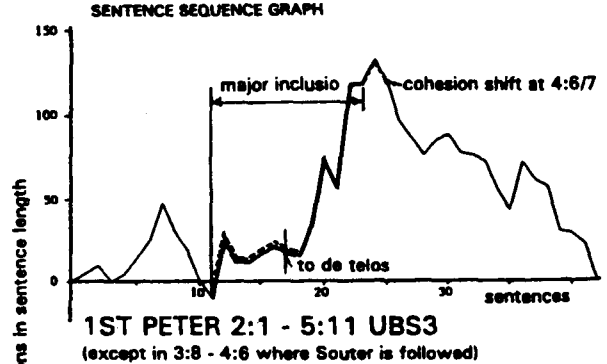
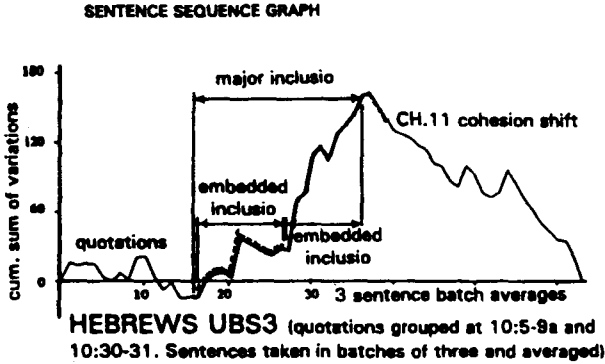


**COMPARISON OF PRIME PATTERNS IN HEBREWS, 1ST AND 2ND PETER**

**Fig. 3**

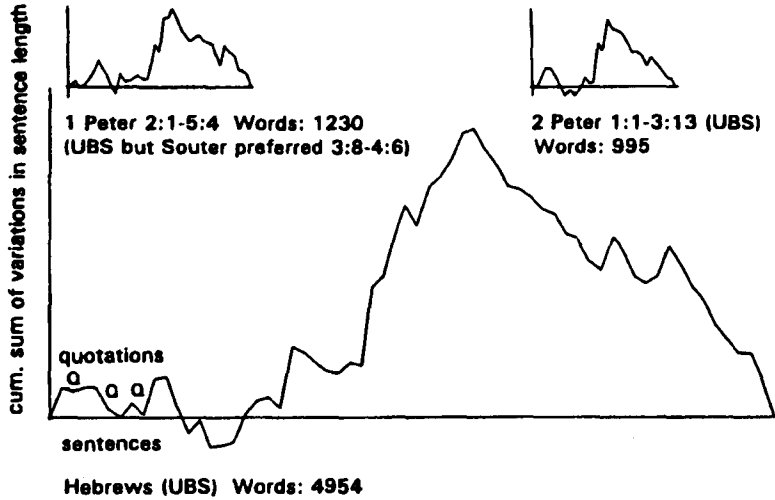


**Fig. 4**



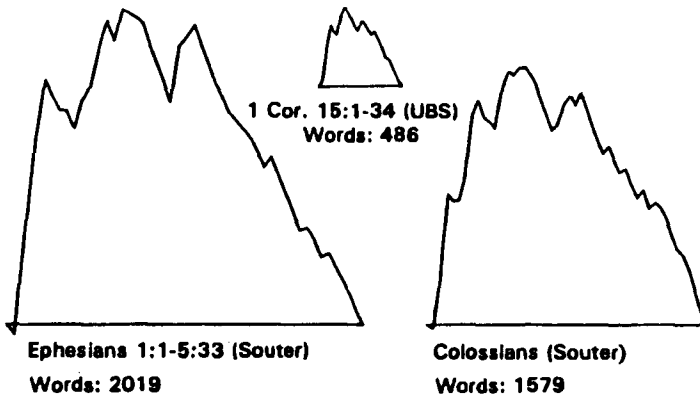
LOCATION OF MAJOR INCLUSIO  
IN HEBREWS, 1ST AND 2ND PETER

Fig. 5



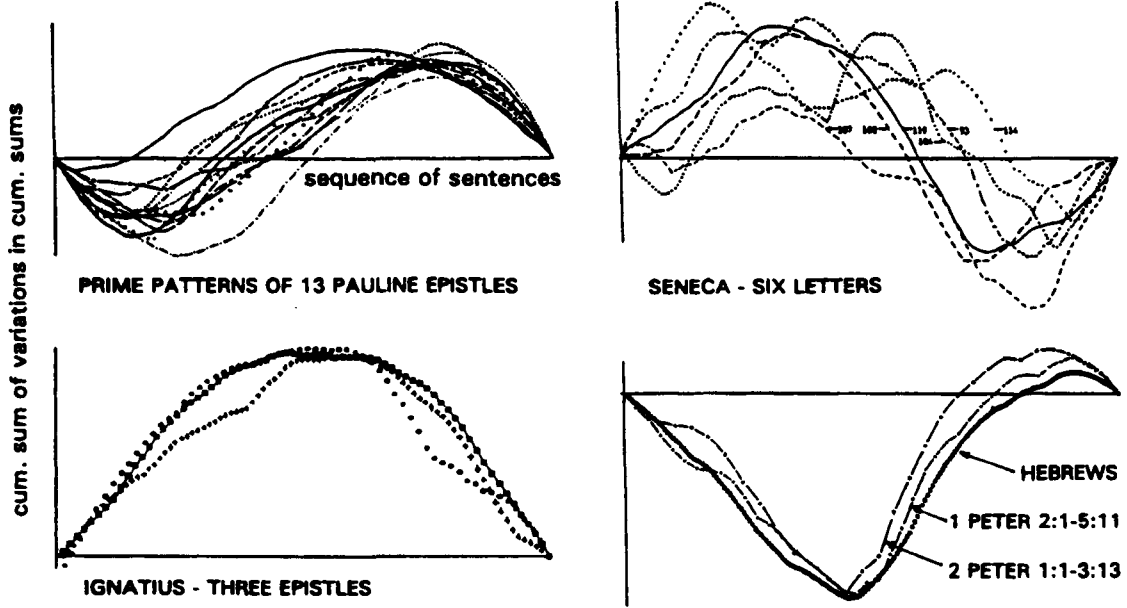
**SCALING RELATIONSHIP BETWEEN WORKS  
- HEBREWS, 1ST AND 2ND PETER**

**Fig. 6**



**SCALING RELATIONSHIP BETWEEN WORKS  
- THREE PAULINE EXAMPLES**

**Fig. 7**



**SUPERQSUMS OF SEVERAL AUTHORS**

**Fig. 8**

Barr, **Hebrews and 1st and 2nd Peter**, *IBS 19, Jan. 1997*  
epistles. The patterns link the two Petrine epistles to Hebrews. It  
follows therefore, that Hebrews may justifiably be considered to be  
the Gospel according to Silvanus.

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