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Does Joseph's Letter to Emma of 4 November 1838 Show that He Knew about Chiasmus?

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A letter by Joseph Smith to his wife Emma dated 4 November 1838 has been cited as evidence that he knew about chiasmus. We analyze the chiastic structure of this letter statistically in order to assess the strength of this evidence. We calculate a likelihood of 68% that this structure could have appeared by chance, and conclude that this letter is inadmissible as evidence that Joseph Smith knew about chiasmus. We discuss the conditions under which chiastic structure can be considered as valid evidence of intentionality.

Background

Ancient Hebrews, among others, used a literary form called chiasmus in their writing.[2] Chiasmus has been found in the Book of Mormon,[3] and there is no historical evidence that Joseph Smith knew about this form.[4] Some people use this as evidence of the ancient Hebrew origins of the Book of Mormon.[5] Others question these origins, offering two explanations for the presence of chiasmus in the Book of Mormon:

The first explanation is that Joseph Smith knew about chiasmus and employed it deliberately in writing, rather than translating, the book.[6] As evidence, those adopting this explanation cite instances of chiasmus in the Doctrine and Covenants and in other modern writings of Joseph Smith, for which no claim of ancient origins is made.[7]

The second explanation is that chiastic structure can be found in almost any extensive passage of text. A passage technically qualifies as chiastic if two or more literary elements appear in some order in the text and then reappear in exactly the reverse order. Accordingly, those adopting this explanation argue that chiasms in the Book of Mormon are not deliberate constructions on the part of its writers, but instead are unintentional pairings of repeated words identified only through the scrutiny of the analyst.[8]

The question of intentionality of chiasmus is central to both explanations—intentionality in Joseph's modern works for the first, and lack of intentionality in the Book of Mormon for the second. We have developed statistical tools for calculating the likelihood of unintentional chiastic structure, have applied these tools uniformly in studying chiastic proposals in various works, and have found these tools to be capable of identifying many-element chiasms that are likely to have been intentional.[9] Our results indicate that four chiasms proposed in the Book of Mormon are likely to have been intentional, thereby casting doubt on the second explanation.[10] Our results also indicate that chiasms proposed in the Doctrine and Covenants could easily have resulted from chance pairings of repeated words, thereby casting doubt on the first.[11]

We have recently become aware of chiastic structure proposed in a letter written by Joseph Smith to his wife Emma. This letter was written in Independence, Missouri on 4 November 1838, eight days after Missouri Governor Lilburn Boggs issued his extermination order.[12] This chiastic structure has been cited as evidence that Joseph Smith knew about chiasmus.[13] The purpose of this article is to evaluate the strength of this evidence by presenting a statistical analysis of the chiastic structure of this letter.

Analysis

Jared Demke and Scott Vanatter proposed a chiastic summary of this letter with five paired chiastic elements and a sixth central, unpaired element:[14]

A. My Dear and Beloved Companion of My Bosom, in Tribulation, and Affliction
  B. My Lovely Children
    C. A Traitor to the Church . . . Be Careful Not to Trust Them
      D. We May Have Our Families Brought to Us
        E. I Hope for the Best Always . . . Oh May God Have Mercy on Us
          F. I Do Not Know Where it will End . . . Determined to Exterminate
        E. I Have Some Hopes . . . [God] will Extend Mercy in Some Degree
      D. I May Send for You to Bring You to Me
    C. Pray for Deliverance . . . Be Faithful and True to Every Trust
  B. Those Little Children
A. My Kind and Affectionate Emma, I am yours forever

Example 1: Demke & Vanatter chiastic summary

A valid statistical analysis relies on identifying all significant repeated elements in the entire text, not just those that appear in the chiastic summary, and on ensuring that repeated elements are sufficiently closely related. Accordingly, using our tools, we have searched the entire text of Joseph's letter for repeated words and phrases, excluding insignificant isolated words such as *the*, *of*, and *my*. Of the nineteen repeated elements that we identified in this search, seven participate in the chiastic summary and twelve do not. These are respectively termed chiastic and non-chiastic elements. In our resulting chiastic summary, the seven chiastic elements appear in bold face:

a. my lovely **children** (B)
  b. the slain of the people of **God**
    c. to have you careful not to **trust** them (C)
      d. we may have our families **brought** to us (D)
        e. I **hope** for the best always
          f. Oh may **God have mercy on us**. (E)
            g. **General Clark** of Howard County
            g. **General Clark** is determined to exterminate
          f. **God … will extend mercy in some degree toward us** (E)
        e. I have some **hopes**
      d. I may send for you to **bring** you to me. (D)

c. be faithful and true to every **trust**. (C)
b. May **God** give you wisdom
a. Those little **children** (B)

Example 2: Seven-element chiastic summary

Of the seven chiastic elements, four correspond to elements B, C, D, and E of Demke & Vanatter. Element A fails to qualify as a repeated element for our statistical purposes because the pairing lacks shared significant words.[15] Element F fails to qualify because it is unpaired.

In the following full text of Joseph's letter, the basic seven-element chiastic structure of Example 2 is shown in bold face, appearances of these elements outside of this structure are underlined, and appearances of the twelve non-chiastic elements are italicized. Spelling and punctuation have been modernized.

> My Dear and beloved companion of my bosom, in tribulation, and affliction, I would inform you that I am well, and that we are all of us in *good* spirits as regards our own fate, We have been protected by the Jackson *County* boys, in the most genteel manner, and arrived here in the midst of a splendid parade, a little after noon, instead of going to jail we have a *good* house provided for us and the kindest treatment. I have a great anxiety about you, and my lovely **children**. *My heart* mourns and bleeds for the brethren, and sisters, and for the slain of the *people* of **God**. Colonel Hinkle proved to be a traitor to the *Church*. He is worse than a hull who betrayed the army at Detroit. He decoyed us unawares. <u>God</u> reward him. John Carl told *General Wilson* that he was going to leave the *Church*. *General Wilson* says he thinks much less of him now than before. Why I mention this is to have you careful not to **trust** them. If we are permitted to stay any time here, we have obtained a promise that we may have our families **brought** to us. What <u>God</u> may do for us *I do not know*, but I **hope** for the best always in all *circumstances*—although I go unto death, I will <u>trust</u> in <u>God</u>. What outrages may be committed by the mob *I know not*. But I expect there will be but little or no restraint. Oh may **God have mercy on us**. When we arrived at the river last night, an express came to *General Wilson* from **General Clark** of Howard *County* claiming the right of command, and there are some *feelings* between the officers. *I do not know* where it will end. It is said by some that **General Clark** is determined to exterminate. **God has spared some of us thus far, perhaps he will extend mercy in some degree toward us**, yet, some of the *people* of this place have told me that some of the Mormons may settle in this *county* as other men do. I have some **hopes** that some thing may turn out for *good* to the afflicted Saints. I want you to stay where you are until you hear from me again. I may send for you to **bring** you to me. I cannot learn much for certainty in the *situation* that I am in, and can only pray for deliverance, until it is meted out—and take every thing as it comes, with patience and fortitude. I <u>hope</u> you will be faithful and *true* to every **trust**. I can't write much in my *situation*—conduct all

> matters as your *circumstances* and necessities require. May **God** give you wisdom and prudence and sobriety, which I have every reason to believe you will. Those little **children** are subjects of my meditation continually. Tell them that Father is yet alive. God grant that he may see them again. O *Emma*, for God sake, do not forsake me nor the truth, but remember me. If I do not meet you again in this life, may God grant that we may meet in heaven. I cannot express my *feelings*. *My heart* is full. Farewell, oh my kind and affectionate *Emma*, I am yours forever your husband and *true* friend. Joseph Smith, Jr.

Example 3: Full text

The structure of this letter is evidently much more complicated than its tidy seven-element chiastic summary implies (Example 2). Rather than appearing just twice in their proper places in the chiastic structure, *God*, *trust*, and *hope* make extra appearances outside of this structure: The numbers of appearances of the seven chiastic elements are: *children* 2, *God* 8, *trust* 3, *bring / brought* 2, *hope* 3, *God have mercy* 2, and *General Clark* 2. Rather than being restricted to these seven elements, the letter includes appearances of twelve non-chiastic elements, some of which appear more than twice: *county* 3, *General Wilson* 3, *I know not* 3, *good* 3, *church* 2, *my heart* 2, *situation* 2, *people* 2, *feelings* 2, *true* 2, *circumstances* 2, and *Emma* 2. Accordingly, the total number of appearances of elements, both chiastic and non-chiastic, is 50, of which 14 appearances participate in the seven-element chiastic summary (two appearances per element). These numbers are typical of non-chiastic text in which words are repeated without apparent poetic intent; some computer manuals have this characteristic.[16] These numbers contrast sharply with the best chiasms in the Book of Mormon and the Bible, for which most or all appearances participate in the chiastic structure. For example, a ten-element rendering of Alma 36 has a total of 22 element appearances, of which 20 participate in its chiastic summary.[17]

It does not seem particularly surprising to find chiastic structure with seven elements in Joseph's letter because of the various appearances of the nineteen elements in the letter and the freedom of the analyst to select from among them. Extra elements provide flexibility in identifying chiastic structure, raising the likelihood that some subset of the many appearances would happen to form seven-element chiastic structure. This calls into question the suggestion that Joseph deliberately invoked the chiastic form in composing the letter.

Detailed calculations support these heuristic arguments. A computer program that we developed made 100,000 random rearrangements of the various appearances of the nineteen repeated elements in Joseph's letter, and identified chiastic structure with at least seven chiastic elements in 68,311 of these arrangements. Accordingly, the likelihood that the seven-element chiastic structure of Joseph's letter could have appeared by chance is $L = 0.683 \pm 0.003$. In other words, there is a 68% chance that the chiastic structure in this letter could have appeared randomly. This value of L is typical of non-chiastic text and contrasts sharply with values for the best chiasms in the Book of

Mormon and the Bible, which are as low as L = 0.000000008 ± 0.000000004 (for the ten-element chiastic structure of Alma 36).[18]

These calculations emphasize the pitfalls of relying alone on chiastic summaries such as Examples 1 and 2, which are often misleadingly tidy compared with the full text of the passage. Picking out the appearances of repeated elements that happen to participate in the chiastic structure and ignoring all others can lead to meaningless statistical results and to untenable conclusions regarding intentionality. Valid results rely crucially on analyzing the full text.

Conclusion

Our statistical analysis yields a high likelihood, 68%, that seven-element chiastic structure could have appeared by chance in Joseph's 1838 letter. Only when a likelihood is small can it be used as evidence that chiastic structure likely appeared by design rather than by chance. Since the likelihood is high that chiastic structure could have appeared by chance in Joseph's letter, this structure is inadmissible as evidence that he knew about chiasmus and that he employed it deliberately in composing this letter. This structure is as indefensible statistically as chiastic structure discovered in a computer manual.

On the other hand, the likelihood is small that four of the chiasms in the Book of Mormon could have appeared by chance.[19] These chiasms are therefore admissible as evidence that the author(s) of the Book of Mormon, be they ancient or modern, knew about chiasmus and employed it deliberately in the book.

Although a high likelihood indicates that the chiastic structure in Joseph's letter *could have* appeared by chance, it does not necessarily imply that it *did*.[20] Joseph might have deliberately applied the chiastic form in composing the letter.[21] Accordingly, the chiastic structure of Joseph's letter cannot be brought into evidence either for or against his knowledge or deliberate use of chiasmus.

Preliminary inspection of chiastic structure in other letters and writings by Joseph Smith indicates that these may also be indefensible statistically.[22] Those inclined to use any of these proposals as evidence that Joseph knew about chiasmus are encouraged to defend their evidence by statistical analysis. The computer program that we used in our analysis is available online free of charge.[23]

The sword cuts both ways. Any chiastic structures proposed in the Book of Mormon whose likelihoods of appearing by chance turn out to be high would be inadmissible as evidence of its ancient origins.

A rough idea of the likelihood that a chiasm could have appeared by chance can be obtained without doing detailed statistical calculations. All that is needed is the text of the passage and, for convenience, a word processor with search capability. The procedure is (1) to search the entire text of the passage for *all* repeated words and phrases, excluding insignificant isolated words such as *the, of,* and *my,* (2) to count the number of

appearances in the passage of each of these repeated words and phrases, (3) to identify the appearances of these elements in the basic paired chiastic summary, and (4) to compare the total number of element appearances with the number of appearances in the chiastic summary. If the total number is considerably larger than the number in the summary, then the chiastic structure could easily have resulted by chance. Joseph's letter fits into this category, with total number 50 and summary number 14 (see Example 3 above). If these numbers are instead comparable to each other and are large, then the chiastic structure has a small likelihood of appearing by chance and a high likelihood of appearing by design. The ten-element structure of Alma 36 fits into this category, with total number 22 and summary number 20.

Much chiastic analysis in the literature, both literature favoring the authenticity of the Book of Mormon and literature critical of this authenticity, focuses exclusively on step (3), leading in many instances to misleadingly tidy chiastic summaries that hide departures from the chiastic pattern.

Did Joseph Smith know about chiasmus? He may have. Chiastic proposals that we have analyzed in the Doctrine and Covenants and herein supply no evidence either that he did or that he did not. On the other hand, if some historical or statistical evidence were uncovered that Joseph knew about chiasmus when he translated the Book of Mormon, such a discovery would preclude using the presence of chiasmus in the Book of Mormon as admissible statistical evidence of its ancient origins.

In summary, chiasms having high likelihoods of appearing by chance cannot be used as valid evidence in scholarly discussions. Examples include chiasms in the Doctrine and Covenants and Joseph's 4 November 1838 letter. Chiasms having low likelihoods do supply evidence of intentionality. Examples include four chiasms in the Book of Mormon and several in the Bible. Joseph's letter does not provide evidence that he knew about the chiastic form or used it in his writing.

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[2] John W. Welch, ed., *Chiasmus in Antiquity* (Hildesheim: Gerstenbert, 1981; repr., Provo, Utah: Research Press, 1998); John W. Welch, "Chiasmus in Biblical Law," in *Jewish Law Association Studies IV: The Boston Conference Volume*, Bernard S. Jackson ed.,(Atlanta: Scholars Press, 1980), 8; John W. Welch and Daniel B. McKinlay, eds. *Chiasmus Bibliography*, (Provo, Utah: Research Press, 1999).

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[3] John W. Welch, "Chiasmus in the Book of Mormon," BYU Studies 10 (1969), 69-84; John W. Welch, "A Masterpiece: Alma 36," in *Rediscovering the Book of Mormon*, John L. Sorenson and Melvin J. Thorne, eds (Salt Lake City: Deseret Book, 1991), 114-15; John W. Welch, "Chiasmus in Helaman 6:9-11," in *Reexploring the Book of Mormon*, John W. Welch, ed., (Salt Lake City: Deseret Book; Provo, Utah: FARMS, 1992), 230-32; Donald W. Parry, *Book of Mormon Text Reformatted according to Parallelistic Patterns* (Provo, Utah: FARMS, 1992), 278-81.

[4] John W. Welch, "A Steady Stream of Significant Recognitions," in *Echos and Evidences*, Donald W. Parry, Daniel C. Peterson and John W. Welch, eds. (Provo: FARMS, 2002), 340; John W. Welch, "How Much Was Known about Chiasmus in 1829 When the Book of Mormon Was Translated?," *FARMS Review of Books*, 15, no. 1 (2003): 47-80, http://farms.byu.edu/display.php?table=review&id=465.

[5] Jeffrey R. Lindsay Website, "Chiasmus in the Book of Mormon: Possible Evidence of Authenticity," http://jefflindsay.com/chiasmus.shtml (2004).

[6] Michael White, "Why I No Longer Believe," http://home.comcast.net/~zarahemla/No_Longer_Believe/No_Longer_Believe_15.html (2005); "Chiasmus: Deception or Ancient Evidence," Zion's Lighthouse Message Board (ZLMB) Archives: One on One, http://pub26.ezboard.com/bpacumenispages (2003).

[7] Sandra Tanner, "Chiasmus and the Book of Mormon," http://www.utlm.org/onlineresources/chiasmusandthebom.htm (2003); Daniel A. Vogel, "The Use and Abuse of Chiasmus in Book of Mormon Studies," SL01374, presented at Sunstone Theological Symposium, Salt Lake City, Utah (2001).

[8] Brent Lee Metcalfe, "Apologetic and Critical Assumptions about Book of Mormon Historicity," *Dialogue: A Journal of Mormon Thought*, 26, no. 3 (Fall 1993): 162-171; Jerald and Sandra Tanner, *Salt Lake City Messenger*, no. 72, http://www.utlm.org/newsletters/no72.htm (1989); http://www.lds-mormon.com/chiasm.shtml (2003); Earl Wunderli, "Critique of Alma 36 as an Extended Chiasm," *Dialogue: A Journal of Mormon Thought* 38, no. 4 (Winter 2005): 97-110.

[9] Boyd F. Edwards and W. Farrell Edwards, "Does Chiasmus Appear in the Book of Mormon by Chance?" *BYU Studies* 43, no. 2, (2004): 103-130; available online, with supplemental materials, at http://byustudies.byu.edu/chiasmus/; Boyd F. Edwards and W. Farrell Edwards, "Response to Earl Wunderli's Critique of Alma 36 as an Extended Chiasm," to appear in the Fall 2006 issue of *Dialogue: A Journal of Mormon Thought* and available online at *Dialogue Paperless: E-Paper # 1 (April 30, 2006)*, http://www.dialoguejournal.com/.

[10] Edwards and Edwards, *BYU Studies*, pp. 118-123. The four strongest examples of chiasmus in the Book of Mormon are Mosiah 3:18-20, Mosiah 5:10-12, Alma 36:1-30, and Helaman 9:6-11.

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[11] Ibid., 118.

[12] Jared R. Demke and Scott L. Vanatter, *Davidic Chiasmus & Parallelisms*, "Letter to Emma: I Do Not Know Where It Will End," http://www.geocities.com/CapitolHill/3500/owjsemma38.html; Dean C. Jessee, ed. *The Personal Writings of Joseph Smith*, (Deseret Book, Salt Lake City, 2002), 41, available at http://deseretbook.com/personalwritings/41.

[13] White, "Chiasmus: Deception or Ancient Evidence," ZLMB.

[14] Demke and Vanatter.

[15] Our six selection rules require that repeated elements share the same words, and consequently exclude synonymous pairings such as element A in Example 1 ("My dear and beloved companion" vs. "My kind and affectionate Emma"). We have applied this requirement uniformly in our analysis of all chiasms in order to exclude weak and subjective pairings that would invalidate statistical analysis. Although this requirement occasionally excludes reasonably strong synonymous pairings such as element A, it also excludes large numbers of weak and highly subjective pairings that appear in the chiastic literature. We do not suggest that this requirement be adopted as a general requirement for chiastic analysis, and employ it solely as an easily enforced standard to promote valid and uniform statistical analysis. Although our rules exclude element A, they require three new chiastic elements (*God*, *hope*, and *General Clark*), for a net increase of two paired chiastic elements over the structure proposed by Demke and Vanatter. Our element selection rules allow element d (*brought* vs. *bring*) in Example 2 because it involves two tenses of the same verb. For further discussion of these rules, see Edwards and Edwards, *BYU Studies*, 111-114.

[16] Ibid., 117, 118.

[17] Ibid., 123.

[18] Ibid., 117, 123.

[19] Although a moderate to large value of L is sufficient to show statistical insignificance of chiasmus, a small value of L is not in itself sufficient to show statistical significance; in this case one must also calculate the likelihood P that chiastic structure could have appeared by chance in the larger work in which the chiasm appears, which likelihood depends on the estimated number of opportunities for chiastic structure in the larger work. Correspondingly, the final measure of the statistical significance of the ten-element chiastic structure of Alma 36 is the likelihood $P = 0.0000027 \pm 0.0000016$ that this structure could have appeared by chance somewhere in the Book of Mormon (Edwards and Edwards, *BYU Studies*, 123). Since this value is small, it serves as evidence that the author of Alma 36 deliberately invoked the chiastic form in composing this chapter. This

value of P implies odds exceeding 100,000 to one against such chiastic structure appearing inadvertently in the Book of Mormon.

[20] Moderate to large values of L say nothing about intentionality. For example, the moderate likelihood 33% that the two-element chiastic structure of Matthew 10:39 could have appeared by chance does not necessarily imply that this chiastic structure was inadvertent. Nevertheless, this value precludes using the chiastic structure of Matthew 10:39 as evidence that Matthew knew about chiasmus and employed it deliberately in his writing.

[21] White wonders whether Joseph Smith, because of his familiarity with the literary style of the Bible, might have unconsciously incorporated the chiastic form into his writing without actually knowing about the form. This point is irrelevant. First, because if a chiasm has a high likelihood of appearing by chance, then its chiastic structure says nothing about intentionality. Second, if it has a low likelihood of appearing by chance, then its chiastic structure should be attributed to the style—conscious or unconscious—or intent of its author, not to chance pairings of words or ideas.

[22] Demke and Vanatter.

[23] At http://byustudies.byu.edu/chiasmus/, free copies of our chiasmus analysis software are available for Windows, Macintosh, and Macintosh Classic. Also available at this site are instructions, examples, and source code for this software.