

## NOTES OF INTEREST

*Editor's Note:* Is the chiasmus in Alma 36 intentional or accidental? *Dialogue* here publishes an exchange between scholars on that question. A father-and-son team present a rebuttal of an earlier article (Earl M. Wunderli, "Critique of Alma 36 as an Extended Chiasm," *Dialogue: A Journal of Mormon Thought* 38, no. 4 [Winter 2005]: 97–110), followed by Wunderli's defense of his position. Both pieces are abbreviated versions of longer statements bearing the same titles, posted on a new section of our website titled "Dialogue Paperless." We remind our readers that *Dialogue* is rapidly supplementing the printed journal with an online presence. "Dialogue Paperless" presents refereed papers of high quality which do not appear in the printed version of the journal. We invite our readers to read the unabbreviated exchange on chiasmus at the following address, where they may, if they wish, post comments on an accompanying weblog. Dialogue Paperless: <http://www.dialoguejournal.com/>.

# Response to Earl M. Wunderli's "Critique of Alma 36 as an Extended Chiasm"

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In his "Critique of Alma 36 as an Extended Chiasm," Earl Wunderli argues that the chiasmic structure of Alma 36, which was first documented in 1969 by John W. Welch,<sup>1</sup> was not intended by its author. Wunderli also dismisses our recent statistical calculations, which indicate that the chiasmic structure of Alma 36 is likely to be intentional.<sup>2</sup> The purpose of this comment is to respond to Wunderli's critique.

### Background

Ancient Hebrew writers are among those who employed chiasmus, a literary form that introduces a number of literary elements in one order and then reemploys them in the reverse order.<sup>3</sup> Since 1969, chiasmus in

the Book of Mormon has attracted considerable attention because the book purports to be a translation of a record written anciently by Hebrew descendants. No direct evidence exists that Joseph Smith knew about chiasmus when he translated the Book of Mormon in 1829.<sup>4</sup>

Many people regard examples of chiasmus in the Book of Mormon as deliberate applications of the chiastic form. This group includes both proponents and critics of the authenticity of the Book of Mormon. While proponents regard chiasmus as evidence of this authenticity,<sup>5</sup> critics suggest that Joseph Smith or some other modern author must have known about chiasmus and incorporated it in writing, rather than in translating, the Book of Mormon.<sup>6</sup>

Others, including Wunderli, hold that the proposed chiasms in the Book of Mormon are not deliberate applications of the chiastic form and ascribe their chiastic structure to the ingenuity of the analyst, rather than to the intent of the author.<sup>7</sup> This group regards chiastic structure in the Book of Mormon as nothing more than repeated occurrences of words and ideas that fall inadvertently into chiastic patterns and that are identified only through the scrutiny of the analyst.

### Alma 36

Alma 36 has received considerable attention in this context. Many regard this chapter as a deliberate application of the chiastic form because of the large number of literary elements that fit the chiastic pattern, the strength of the associations between paired elements, and the importance of the chapter's focal point.<sup>8</sup> Others, including Wunderli, argue that repetitiveness within the chapter opens the door for analysts to pick and choose from among multiple appearances of key ideas and to adjust the boundaries of chiastic sections to impose chiastic structure where none was intended.<sup>9</sup> Because of these multiple appearances, even those who regard this chapter as a deliberate application of the chiastic form disagree on some of the details of its structure.<sup>10</sup> No one knows for sure, of course, whether the author of Alma 36 intended it to be chiastic.

Some imprecision in the chiastic form does not preclude it from being deliberately chiastic. An author may deliberately apply the chiastic form while at the same time taking some liberties with the form, such as repeating key elements outside of their intended chiastic sections or varying the length of certain sections for dramatic emphasis.

If Alma 36 is not the result of some deliberate application of the chi-

astic form, then its apparent chiasmic structure must have come about inadvertently, that is to say, as a result of unintentional pairings of repeated ideas. In other words, as the chapter was written, its author would have employed literary elements in an order that just happened to be chiasmic and this order would have been revealed only later by the analyst.

In an effort to aid analysts in assessing the degree of deliberateness behind specific chiasmic proposals, Welch proposed fifteen indices of chiasmic strength and used them to argue that Alma 36 reflects a high degree of chiasmicity.<sup>11</sup> Wunderli applies and extends these fifteen criteria to argue the opposite, maintaining that Alma 36 violates literary standards that he expects deliberate chiasmus to obey.

Wunderli also dismisses our recent statistical calculations on the basis of such violations. However, meaningful statistical results do not require adherence to the literary standards devised by Welch or Wunderli. While we acknowledge the importance of their literary analyses, we emphasize that their approaches are fundamentally different from our statistical approach and further emphasize that most of Welch's fifteen criteria and Wunderli's extensions of these criteria have little bearing on the validity of our statistical results. Exceptions include Welch's quantifiable criteria of length, density, mavericks, and reduplication, which are embodied implicitly in our statistical approach. Wunderli imposes his particular set of literary standards in an attempt to discredit our statistical approach, implying that one can't use statistics to analyze a text unless it obeys his or Welch's literary standards. We disagree.

While valid statistical results do not require adherence to these particular literary standards, they do require careful attention to identifying and strictly accounting for all of the important elements in a passage, both those paired elements that participate in the basic chiasmic structure of the passage, called chiasmic elements, and those that do not. Statistical results are meaningless unless this crucial requirement is met; ignoring it leads to the mistaken conclusion that spurious chiasmic structure such as that found in a computer manual must have been intentional.<sup>12</sup>

We developed six rules to ensure adherence to this requirement and to enable a uniform comparative analysis of various texts.<sup>13</sup> We used these rules to identify and account for all chiasmic and non-chiasmic elements in each passage studied. We then used elementary statistics to calculate the likelihood that random rearrangements of these elements would be chiasmic. In other words, this is the likelihood that chiasmic structure could have

appeared by chance rather than by design. Welch's and Wunderli's literary standards are largely irrelevant to this process.

We validated our approach by confirming that it yields very small likelihoods for well-known deliberate chiasms such as Leviticus 24:13–23 and that it yields moderate or large likelihoods for spurious chiasmic structure such as that found in the computer manual. Although authors do not select words at random as if from a hat when composing passages of text, the actual composition process yields passages having likelihoods that are comparable to those for random word selection when the author has no intention of writing chiasmatically. This observation further validates our statistical approach.

We analyzed dozens of chiasmic structures proposed by others in the standard works and elsewhere. We found that the vast majority of these structures, including all of those in the Doctrine and Covenants and the Book of Abraham, could easily have appeared by chance because they have few chiasmic elements or many non-chiasmic elements, or both. On the other hand, a few chiasms in the Book of Mormon and the Bible stand out as having small likelihoods of having appeared by chance because they possess many chiasmic elements and few non-chiasmic elements.<sup>14</sup> One of these is Alma 36, whose ten-element chiasmic rendering has a likelihood of less than one in 100,000 of having appeared in the Book of Mormon by chance.<sup>15</sup> Our calculations do not absolutely preclude the conclusion that the chiasmic structure of Alma 36 appeared inadvertently but indicate less than one chance in 100,000 that it could have.

Wunderli alleges that our analysis of Alma 36 violates our own Rules 1 and 4. These allegations are untrue, as is discussed in our detailed online response.<sup>16</sup>

We agree that Alma 36, because of its length and complexity, presents special challenges to the analyst, but we nevertheless judge the statistical evidence as sufficient to justify the conclusion that Alma 36 was the result of the deliberate application of the chiasmic form. We find nothing in Wunderli's study that threatens to overturn this conclusion.

### Beyond Alma 36

Wunderli's critique focuses exclusively on Alma 36 and ignores other chiasms in the Book of Mormon with small likelihoods of appearing by chance. Some of these satisfy Wunderli's literary standards better than Alma 36 because they are shorter and simpler. Accordingly, the case

for the significance of chiasmus in the Book of Mormon does not rest on Alma 36 alone.

Those desiring to reach an informed judgment regarding the significance of chiasmus in the Book of Mormon will include Mosiah 3:18–19, Mosiah 5:10–12, Alma 36:1–30, and Helaman 9:6–11 in their investigations. These four chiasms have likelihoods that are less than or equal to that of a simple chiasm with five chiastic elements and no non-chiastic elements. The likelihood is less than one in fifty that these four chiasms could have appeared in the Book of Mormon by chance.<sup>17</sup> This result strengthens the case that the appearance of chiasmus in the Book of Mormon was intentional.

### Notes

The authors express appreciation to Nadine Edwards and John W. Welch for reading an early draft of this manuscript and for making several valuable suggestions.

1. John W. Welch, "Chiasmus in the Book of Mormon," *BYU Studies* 10, no. 1 (1969): 69–84.

2. Boyd F. Edwards and W. Farrell Edwards, "Does Chiasmus Appear in the Book of Mormon by Chance?" *BYU Studies* 43, no. 2 (2004): 103–30; available online at <http://byustudies.byu.edu/chiasmus/>.

3. John W. Welch and Daniel B. McKinlay, eds., *Chiasmus Bibliography* (Provo, Utah: Research Press at Brigham Young University, 1999).

4. John W. Welch, "A Steady Stream of Significant Recognitions," in *Echos and Evidences*, edited by Donald W. Parry, Daniel C. Peterson, and John W. Welch (Provo, Utah: 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.

5. John W. Welch, "Chiasmus in Alma 36" (Provo, Utah: FARMS Preliminary Report, 1989), 49 pp.; John W. Welch, "A Masterpiece: Alma 36," in *Rediscovering the Book of Mormon*, edited by John L. Sorenson and Melvin J. Thorne (Salt Lake City: Deseret Book, 1991), 114–31 (this chapter is a shortened version of the 1989 report); Jeffrey R. Lindsay, "Chiasmus in the Book of Mormon," <http://jefflindsay.com/chiasmus.shtml> (accessed April 10, 2006); and John W. Welch, "What Does Chiasmus in the Book of Mormon Prove?" in *Book of Mormon Authorship Revisited*, edited by Noel B. Reynolds (Provo, Utah: FARMS, 1997), 199–224.

6. Sandra Tanner, "Chiasmus and the Book of Mormon," <http://www.utlm.org/onlineresources/chiasmusandthebom.htm> (accessed April 10, 2006); Dan A. Vogel, "The Use and Abuse of Chiasmus in Book of Mormon

Studies," paper presented at the Sunstone Symposium, Salt Lake City, August 2001, audiocassette SL-01374.

7. Jerald and Sandra Tanner, "A Black Hole in the Book of Mormon: Computer Reveals Astounding Evidence on Origin of Book of Mormon," *Salt Lake City Messenger*, no. 72, <http://www.utlm.org/newsletters/no72.htm> (1989); <http://www.lds-mormon.com/chiasm.shtml> (accessed April 10, 2006); Brent Lee Metcalfe, "Apologetic and Critical Assumptions about Book of Mormon Historicity," *Dialogue: A Journal of Mormon Thought* 26, no. 3 (Fall 1993): 162-71; reviewed by William J. Hamblin, in *Review of Books on the Book of Mormon* 6, no. 1 (1994): 434-523.

8. Welch, "Chiasmus in Alma 36"; Welch, "A Masterpiece: Alma 36"; Lindsay, "Chiasmus in the Book of Mormon."

9. See Vogel, "The Use and Abuse of Chiasmus"; <http://www.lds-mormon.com/chiasm.shtml>; Metcalfe, "Apologetic and Critical Assumptions," 162B71; Hamblin, review of "Apologetic and Critical Assumptions," 434B523.

10. Welch presents such arrangements in "Chiasmus in Alma 36," 2-15.

11. John W. Welch, "Criteria for Identifying and Evaluating the Presence of Chiasmus," *Journal of Book of Mormon Studies* 4, no. 2 (1995); reprinted in Welch and McKinlay, *Chiasmus Bibliography*, 157-74; <http://farmsresearch.com/>.

12. Edwards and Edwards, "Does Chiasmus Appear in the Book of Mormon by Chance?" 117.

13. *Ibid.*, 111-14.

14. *Ibid.*, 110-11.

15. *Ibid.*, 123.

16. Boyd F. Edwards and W. Farrell Edwards, "Response to Earl Wunderli's 'Critique of Alma 36 as an Extended Chiasm,'" *Dialogue Online*: <http://www.dialoguejournal.com/content/?p=24#more-24>.

17. Edwards and Edwards, "Does Chiasmus Appear in the Book of Mormon by Chance?" 110-11. The likelihood that these particular four chiasms could have appeared by chance in the Book of Mormon is actually much smaller than 1 in 50 because three of these four have likelihoods that are lower than that of a simple five-element chiasm.