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Response to Earl Wunderli's critique of Alma 36 as an Extended Chiasm

Boyd F. Edwards
Utah State University

W. F. Edwards

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

Boyd F. Edwards and W. Farrell Edwards

In his "Critique of Alma 36 as an Extended Chiasm," Earl Wunderli argues that the chiastic structure of Alma 36, which was first documented in 1969 by John W. Welch, was not intended by its author. Wunderli also dismisses our recent statistical calculations, which indicate that the chiastic structure of Alma 36 is likely to be intentional. 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. 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 1829.4

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,5 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.6

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.7 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.8 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.9 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.10 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 chiastic structure must have come about inadver
tently, 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 chiastic
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 chiastic proposals, Welch proposed fifteen indices of chiastic
strength and used them to argue that Alma 36 reflects a high degree
of chiasticity.11 Wunderli applies and extends these fifteen criteria to ar-
gue 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 ba-
sis of such violations. However, meaningful statistical results do not re-
quire adherence to the literary standards devised by Welch or Wunderli.
While we acknowledge the importance of their literary analyses, we em-
phasize that their approaches are fundamentally different from our statis-
tical approach and further emphasize that most of Welch’s fifteen criteria
and Wunderli’s extensions of these criteria have little bearing on the valid-
ity of our statistical results. Exceptions include Welch’s quantifiable crite-
rion 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, im-
plying 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 par-
ticular 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 chiastic structure of the
passage, called chiastic 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 chiastic structure such as that
found in a computer manual must have been intentional.12

We developed six rules to ensure adherence to this requirement and
to enable a uniform comparative analysis of various texts.13 We used these
rules to identify and account for all chiastic and non-chiastic elements in
each passage studied. We then used elementary statistics to calculate the
likelihood that random rearrangements of these elements would be chiastic.
In other words, this is the likelihood that chiastic 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 chiastic 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 chiastically. This observation further validates our statistical approach.

We analyzed dozens of chiastic 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 chiastic elements or many non-chiastic 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 chiastic elements and few non-chiastic elements.\(^\text{14}\) One of these is Alma 36, whose ten-element chiastic rendering has a likelihood of less than one in 100,000 of having appeared in the Book of Mormon by chance.\(^\text{15}\) Our calculations do not absolutely preclude the conclusion that the chiastic 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.\(^\text{16}\)

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 chiastic 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.\textsuperscript{17} 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.


10. Welch presents such arrangements in “Chiasmus in Alma 36,” 2–15.


13. Ibid., 111–14.


15. Ibid., 123.


17. Edwards and Edwards, “Does Chiasmus Appear in the Book of Mormon by Chance?” 110–11. The likelihood that these particular four chasms 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.