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Wordprint Analysis and Joseph Smith's Role as Editor of the Times and Seasons

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INSIGHTS

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Wordprint Analysis and Joseph Smith's Role as Editor of the *Times and Seasons*

One of the issues that swirls around discussions of Book of Mormon geography is the rightful place the editorials in the 1842 *Times and Seasons* must take. The story of the editorials begins with Joseph's receipt of John Lloyd Stephens and Frederick Catherwood's *Incidents of Travel in Central America, Chaipas, and Yucatan*, published in 1841. In early 1842, the *Times and Seasons* published several enthusiastic articles that drew attention to the discoveries of Stephens and Catherwood in Central America and compared them favorably with the Book of Mormon. Two of these articles were signed by the editor,¹ while three other articles were unsigned.² Historical sources indicate that the Prophet Joseph Smith served as editor of the paper for all of the issues published between March 1 through the October 15, 1842. During this time, however, apostles John Taylor and Wilford Woodruff assisted the Prophet in his work in the printing office.³ Since these articles were not specifically signed by Joseph Smith, some have questioned whether the Prophet wrote them himself, or if someone else wrote them, with or without his approval.

The task, then, is to determine who wrote the unsigned articles. One way to approach authorship attribution is through wordprint analysis. Authorship attribution attempts to identify the author of a text based on the style of the writing used in the text. The use of quantitative measures to describe an author's writing style is known formally as *stylometry* but is also commonly referred to as *wordprint analysis*. The basic assertion in these studies is that an author has a unique style of writing and that by determining the characteristics of an author's style, his or her written work can be identified if his or her stylistic "fingerprint" is displayed in a document. In authorship attribution, noncontextual words are the features used to describe writing style. Noncontextual words do not convey the author's message, but they are the

function words an author uses to construct his or her message. Examples of noncontextual words are *and, but, however, on, the, upon*, etc. Interestingly, the frequency with which an author uses such words distinctively characterizes his or her writing style and can reveal the author's identity in comparison to other authors.

Discriminant Analysis

One mathematical tool used in a stylometric investigation is *discriminant analysis*. This technique creates a formula to find combinations of distinctive features that will "discriminate" or identify specific characteristics of an individual author's writings.

In order to investigate the probable authorship of the unsigned Book of Mormon editorials, all three articles, excluding wording taken from the Stephens and Catherwood book and the Book of Mormon, were combined by researchers into one 1,000-word block so that there was sufficient data to measure the word frequencies. This text was designated the "Zarahemla Text." Next, other texts appearing in the *Times and Seasons* during the time period April through October 1842, some signed in Joseph Smith's name, some signed "editor," and some which were unsigned, were segmented into thirty-six 1,000-words blocks to correspond in size with the Zarahemla Text.

Writing samples from the same time frame were also taken from John Taylor and Wilford Woodruff, the only other likely contributors to the editorials. Texts selected were those which were as close to the editorial genre as were available. For example, the writing style of the Wilford Woodruff diaries differs from the style he used in more public exposition. Therefore his diaries were not used to compose the 1000-word blocks characteristic of his public writing. Thirty 1,000-word blocks were compiled for Taylor while twenty-four 1,000-word blocks were compiled for Woodruff.

Thus a total of ninety texts were used to build a formula to test the probable authorship of the Zarahemla Text. Seventy non-contextual words were

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identified that best distinguished the writing styles of Smith, Taylor, and Woodruff. Using these words, researchers developed a formula that would classify each writing sample into a group corresponding with the correct author 100 percent of the time.

Results showed that the writing styles of Joseph Smith, John Taylor, and Wilford Woodruff were clearly distinguishable. Writings by Smith, “Editor,” and “Unsigned” were not distinctively different, suggesting that all of these were likely written by Joseph Smith. The Zarahemla Text was found to be closest to the Smith-Editor-Unsigned grouping, providing evidence that Joseph Smith was the most likely author of the unsigned Fall 1842 Book of Mormon articles as well.

Cluster Analysis

Cluster analysis is another tool that is useful in authorship attribution. Using only literary features, cluster analysis groups items into pairs that are similar to each other. This analysis provided additional evidence that the “Zarahemla” block of editorials fits best with the writing styles found in the “Editor” and “Unsigned” groups. It also suggested that the work in the editorial office in 1842 could have been highly collaborative since the writing samples of the three likely authors were spread throughout the clusters. Although the writing style of Joseph Smith is clear, the styles of John Taylor and Wilford Woodruff also seem to be found in some of the “Editor” and “Unsigned” texts.

These findings will be discussed in a future article in the *Journal of the Book of Mormon and Other Restoration Scripture*. They lend no support for the claim that these articles were ghostwritten

by others, or done without the Prophet’s knowledge or approval. They suggest that Joseph Smith in 1842 was not an editor in name only, but shared the excitement and interest of fellow Latter-day Saints concerning Stephens and Catherwood’s Central American discoveries and was very much involved in the oversight, writing, and preparation of these articles on the Book of Mormon. ♦

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Notes

1. Editor, “Traits of the Mosaic History,” *Times and Seasons* 3/16 (June 15, 1842): 818–20, <http://contentdm.lib.byu.edu/u/?/BOMP,3432>; Editor, “American Antiquities,” *Times and Seasons* 3/18 (15 July 1842): 858–60, <http://contentdm.lib.byu.edu/u/?/BOMP,3417>.

2. “Extract from Stephens’ ‘Incidents of Travel in Central America,’” *Times and Seasons* 3/22 (September 15, 1842): 911–15, <http://contentdm.lib.byu.edu/u/?/BOMP,3504>; “Facts Are Stubborn Things,” *Times and Seasons* 3/22 (September 15, 1842): 921–22, <http://contentdm.lib.byu.edu/u/?/BOMP,3500>; “Zarahemla,” *Times and Seasons* 3/23 (October 1, 1842): 927–28, <http://contentdm.lib.byu.edu/u/?/BOMP,3472>.

3. On February 19, 1842, Wilford Woodruff recorded, “Joseph the Seer is now Editor of that paper & Elder Taylor assists him in writing while it has fallen to my lot to take charge of the Business part of the establishment [sic].” Wilford Woodruff journal, February 19, 1842.



From Elder Neal A. Maxwell

Petitioning in prayer has taught me that the vault of heaven, with all its blessings, is to be opened only by a combination lock: one tumbler falls when there is faith, a second when there is personal righteousness, and the third and final tumbler falls only when what is sought is (in God’s judgment, not ours) “right” for us. Sometimes we pound on the vault door for something we want

very much, in faith, in reasonable righteousness, and wonder why the door does not open. We would be very spoiled children if that vault door opened any more easily than it does now. I can tell, looking back, that God truly loves me by the petitions that, in his perfect wisdom and love, he has refused to grant me. Our rejected petitions tell us not only much about ourselves, but also much about our flawless Father. —“Insights from My Life,” in *1976 Devotional Speeches of the Year* (Provo, UT: BYU, 1977), 200, as quoted in *The Neal A. Maxwell Quote Book*, ed. Cory H. Maxwell (Salt Lake City: Bookcraft, 1997), 261–62