Title: Not Your Everyday Wordprint Study: Variations on a Theme

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**Not Your Everyday Wordprint Study: Variations on a Theme**

Roger R. Keller, a former Presbyterian minister converted to the Church of Jesus Christ of Latter-day Saints, is currently a professor in the BYU Department of Church History and Doctrine. Impressed by previous wordprint studies of the Book of Mormon, he determined to expand those statistical studies to more significant words, rather than the noncontextual words used in earlier studies. He describes "the purpose of this study" as

(1) to identify differences and/or similarities in meaning among select content words (words which are theologically, historically, or culturally significant) used by the Book of Mormon authors; (2) to delineate among the different Book of Mormon authors based on their word usage; and (3) to suggest methodologies that may be used by others to research author individuality within the Book of Mormon. (p. xi)

To achieve this goal, Keller established a procedure that included the following steps:

1. Thirty-four word groups or clusters were defined, with individual words within each group. The clusters were necessitated by the fact that many individual words were used less than the minimal five times required for statistical analysis. Thus "under the category of Agriculture, words such as *Crops, Fields, Grain, Root, Sow, Barley*, etc. [a list of 60 words], were collected" for a total of 578 occurrences in the Book of Mormon (p. 4).
2. For this authorship study, authors and computer texts of their sermons, narratives, and editorial work were segregated to separate the material by both author and genre. With two exceptions (Enos at 997 words and the Father at 944, p. 3), samples of fewer than a thousand words were not accepted. This gave twenty-four authors whose writings or sayings “account for 93 percent of the Book of Mormon” (p. 2).¹

3. Seven percent of the Book of Mormon text was excluded from the study, representing “persons whose contributions are too small to consider” statistically (pp. 2–3).

4. For three authors who contributed extensively to the Book of Mormon text, Keller was able to separate out literary genres. Thus he studied Mormon’s sermons, first-person narratives, and third-person narratives separately (p. 3), being careful to cull Mormon’s personal writings interspersed in the records he abridged.

5. Each word within a cluster was counted for each author. Keller then totaled by author all occurrences of words within a given cluster. The number of the cluster’s occurrences per thousand words for a given author was then divided by the number of occurrences per thousand words for the same cluster in the entire Book of Mormon text. This gave a “normalized number” to compare the use of the cluster by different authors (p. 5). Thus for the Near East cluster, it was determined that the number of occurrences per thousand words in the entire Book of Mormon was 4.38. Compared to this average, some Book of Mormon authors (e.g., Lehi, 7.25; Nephi, in sermons, 10.8; Jacob, 8.6; Abinadi, 6.77; Nephi, 7.63) clearly referred to words in the category much more often than other authors (e.g., Enos, 0; Ammon, .733; Mosiah, 0; Helaman, .893) (p. 6). Some of Keller’s charts list the actual number of occurrences for each word, while others list the occurrences per thousand words of text for the author. It is the

¹ Keller indicates that he used the 1829 printer’s manuscript, the “text taken from the original handwriting of the copyists of the printer’s manuscript with corrections for words which varied from existing sections of the dictation manuscript” (p. 1 n. 2). It was unclear to me whether he consulted photographs of the original handwritten manuscript or relied on some published source. Since Royal Skousen’s work on this material has not yet been completed or published, it seemed unlikely to me that Keller could have used the latest information.
latter figure that is deemed to be the most significant, since it evens the playing field for authors with writings of varying lengths.

The statistical methodology used for the study, developed by statistician John Hilton, measured the number of null-hypothesis rejections (described on pp. 9–11). Keller acknowledges the assistance of Hilton (who helped write the first chapter, p. 1 n. 1), as well as input from Alvin Rencher, both of whom have been noted for their wordprint studies of the Book of Mormon. When I asked John Hilton about the study, he indicated that he felt that Keller had pointed out some very interesting things, but that the study was not what he would call “a rigorous scientific statistical study.” This had also been my impression, though I must add that I am not a statistician.

Authorship and Word Category Questions

Let me state at the outset that I consider Keller’s book an insightful contribution of material that will surely influence future studies of the Book of Mormon. Where I have reservations is in the categorization of authors and word groups used in the statistical analysis.

One of the problems inherent in a study such as this is that much of the Book of Mormon (Mosiah through 4 Nephi) is Mormon’s abridgment of earlier records. One wonders how much of the original record came through in the abridgment process and how much was Mormon’s total rewording of the text. For example, in the discussion of the use of the word church in Mosiah 26–7 and Alma 1, 46 (pp. 50–2), Keller attributes the material to Mormon. Is it not just as likely that Mormon merely used the term in the same way it appeared in the text he was abridging?

In some cases, especially where first-person sermons are recorded, Mormon undoubtedly used the actual words he found in the records, but one wonders how much he may have left out. For

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2 This seems especially true when he prefaces the material with declarations such as “the words that X spake, saying,” which is a Hebrew idiom introducing direct discourse (e.g., Mosiah 1:10; 2:9; 7:18; 13:6; Alma 5:2; 9:13; 10:1; 37:24; 50:19; cf. Mosiah 27:13). We also have introductions such as “the words [of] X” (prefaces before Alma chapters 5, 7, 9), “the commandments of”
example, Alma 10–11 contains Amulek’s testimony and the debate between him and Zeezrom. Yet Mormon is clear that he has not recorded all of Amulek’s words found in the original record (Alma 9:34; 11:46). Could he have left out portions in which Amulek discussed topics containing words and clusters that might have given us a different picture of his language? To a certain extent, that depends on where Mormon excised Amulek’s words. If he lopped off the beginning of his comments or the end and included everything in the middle, the effect would be minimal. But if he decided to remove, for example, all reference to a specific topic wherever it occurred throughout the text, this would have a severe impact on the results of Keller’s study. I am, of course, speculating, since I have no evidence of how Mormon abridged this or any other portion of the Book of Mormon. Consequently, despite potential problems because of abridgment, I must admit that Keller has done the best that could be expected with the materials at hand.

In his section “Choosing the Authors” (p. 2), Keller does a few things I would not have done. I am not sure it is valid to call Lehi an author, since it is possible that Nephi, who authored the record containing Lehi’s words, was merely paraphrasing his father. After all, shorthand had not yet been developed in the sixth century B.C., so he may not have been able to write down his father’s exact words.

In another case, Keller assigns a text to the “angel who spoke to Nephi 1” (p. 2). But since the angel did not actually write anything, we are dependent on Nephi’s secondhand account and his memory of what he heard the angel say. It is possible, of course, that the Lord inspired him to remember all the angel’s words, but it is just as likely that Nephi’s report of his vision is based on his best recollection. If the former, then the angel clearly

(prefaces before Alma chapters 36, 38, 39) and similar expressions (e.g., Mosiah 8:1; 27:17; Alma 12:2; 13:31). In other cases, where the speaker uses first person, it also seems clear that Mormon has merely extracted from the original record (e.g., Alma 29:1; 45:2). Note that the prefaces before the chapters that I have cited here were translated from the plates and are not modern additions as are most chapter headings. In the case of the prefaces before Alma’s instructions to his sons (Alma 36–42), we also have Mormon’s declaration that he had “an account of his commandments, which he gave unto them according to his own record” (Alma 35:16).
must be treated as an "author," as Keller has done. If the latter, the text may reflect Nephi’s own language, but not necessarily; it depends on the degree to which he remembered the angel’s exact words. In noting that both Nephi and the angel who spoke to him use the terms church and churches in the same way (p. 55), Keller actually provides evidence that Nephi is the author of the words he has attributed to the angel.

The same can be said of text that Keller assigns to either "The Father" or "The Lord," when those words are being reported by a second party. Some would argue that the title Lord is sometimes applied to God the Father and sometimes to Christ. But Keller defines the term as "Jesus, either before his mortal birth or as the resurrected Lord when he speaks from the heavens" (p. 33). I am concerned not only with this identification, but with the fact that we are informed in Doctrine and Covenants 1:24 that the Lord speaks "after the manner of [the] language" of the people to whom he is revealing his will. This suggests that the words of the Lord recorded by Nephi could reflect quite different authorship (perhaps even Nephi himself) than the words of the Lord recorded by Alma or Isaiah. As a test, Keller should, at the least, have looked at words attributed to the Lord in the Doctrine and Covenants.

Nevertheless, in his analysis, Keller does provide some interesting information about these divine authors. He notes, for example, that "the emphasis among the divine or heavenly figures is on the people of Israel as a nation, a spiritual group, a covenantal group, or a remnant. Most striking is the likeness which is seen between the words of the Lord and those of Jesus. Since the two are indeed the same person, one should expect this" (pp. 90–1).

I also have reservations about the word categories, some of which seem rather arbitrary. For example, in the word cluster labeled “Spirituality,” Keller includes words such as believe, faith, humble, repent(ance), righteous, soul, souls, worship, and charity (p. 14). Most Latter-day Saints would probably agree that these words are part and parcel of spirituality, but would the Nephites so classify them? Is Keller merely reflecting our modern Latter-day Saint culture by this grouping? Lest the reader think that I am finding fault with LDS theology, let me make it clear that I am only thinking about culture-bound classification systems, not
doctrinal matters. If Keller can demonstrate from the Book of Mormon that the Nephites did indeed include all these terms in their view of spirituality, then my potential objection would be answered.

**The Authorship Evidence**

Despite the problems I see in some of the categorization of authors and word groups, Keller does provide some significant evidence for individual authorship within the Book of Mormon. Nevertheless, I disagree with him on a few issues. Because I want to end this review on a high note, I will first address what I see as the bad news, and then turn to the good.

Keller associates Mormon with a “high use of monetary terms” (p. 17), evidently in reference to Alma 11:5–19. But this fades to insignificance when one realizes that Mormon is trying to set the stage for the bribe that follows and that the bribe was made in terms familiar to both the “briber” (Zeezrom) and the “bribee” (Amulek). These terms may no longer have been in use in Mormon’s day and so would not have been part of his vocabulary. It seems much more likely that Mormon draws these words from the text he is abridging. But the passage in question provides good authorship evidence for the Book of Mormon. It demonstrates that the abridger (Mormon) had a document from which he was working and knew that he would have to insert the explanatory material in order that his future audience might

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3 As an example, I note that Keller interprets 2 Nephi 18:18 as meaning that “Isaiah and those who heed his message are signs and wonders of God’s presence in Israel” (p. 91). The passage, cited from Isaiah 8:18, actually reads, “I and the children whom the Lord hath given me are for signs and for wonders in Israel from the Lord of Hosts.” Keller obviously bases his interpretation on Abinadi’s exegesis of Isaiah 53:10 (cited in Mosiah 14:10), in which he indicates that Christ’s “seed” are the prophets and others who heed his message (Mosiah 15:10–3). But Isaiah was talking about his real children, whose names had been given by the Lord and had meaning in the prophet’s messages about the scattering and gathering of Israel. Thus Shearjashub (Isaiah 7:3; 2 Nephi 17:3) means “a remnant shall return” (Isaiah 10:21–2; 2 Nephi 20:21–2), while Maher-shalal-hash-baz (Isaiah 8:1–3; 2 Nephi 18:1–3) means “quick the spoil, hasten the prey” (Isaiah 8:4; 2 Nephi 18:4). Some scholars believe that one of Isaiah’s children was named Immanuel, meaning “God is with us,” a name found in Isaiah 7:14; 8:8.
understand the enormity of the bribe. The fact that Alma 11:20 begins with the words that appear just before the parenthetical insert in Alma 10:32 is evidence for the authenticity of the abridger's work. It seems unlikely that Joseph Smith would have invented this information.

Keller included names of biblical personalities in the Ancient Near East category (p. 4). While this procedure has a certain validity, I question it for the reason that the Nephites presumably had, throughout their entire history, the scriptures from which the Bible was compiled and could readily have referred to the scriptures rather than to the ancient Near East per se. Perhaps it would have been better to establish a Bible category for citations from or references to the Bible (which could still tell us something about which authors used the Old World scriptures and which did not) and to include in the Ancient Near East category only those references to the Old World that were not taken directly from biblical texts. Thus, for example, when Nephi speaks about the city of Jerusalem or the imprisonment of Jeremiah, while both are mentioned in the Bible, he is not citing the Bible, but narrating the history of his time. (One might expect that the first generation of Lehi's family spoke more of the ancient Near East without direct reference to the scriptures than subsequent generations who had not lived in the Old World.) Moreover, I question the validity of including the name Amos in the Ancient Near East category (p. 4), since neither of the two people named Amos in the Book of Mormon is the Old Testament prophet of that name, but both are Nephites living after the time of Christ (4 Nephi 1:19–21, 47). It makes as much sense as assigning me, an American of European ancestry, to the Ancient Near East category because my name, John, is found in the Bible. It would have been better to leave names out of the study.

Keller admits that “the word Earth poses some interesting problems for a word study” (p. 59).

As one first looks at the various ways the word Earth is used, no clear-cut lines seem to exist between the authors, except for Mormon, who has a different usage from everyone else. However, as one begins to read the various passages where the word appears and
to group the usages into common categories, some distinctions begin to surface. (p. 59)

I have reservations about the categories into which the word *earth* has been divided: God’s acts, globe, inhabitants, ground, land, values (p. 59-60). I question the validity of these categories. For example, Keller divides God’s acts in relation to the earth into 15 subcategories (p. 61). These hardly seem relevant to me for the use of the word *earth*, though each subcategory does reflect doctrine. But the occurrences within each subcategory are so low that they seem statistically meaningless.

Keller’s use of the category *globe* for the earth is not intended to imply a belief that the earth was spheroid, for among its subcategories are “ends of,” “four corners of,” “four parts of,” and “four quarters of.” What concerns me about the category as a whole is that some of the other subcategories seem unrelated. We have, for example, “witnesses to God,” “at rest,” “treasures of,” “be joyful,” and “swear by” (p. 65). It is very difficult for me to grasp the rationale for these groupings.

The plain and simple fact is that, in Hebrew, the term ʿereṣ refers to the land mass as opposed to the seas (Genesis 1:9-10) or the “planet” as opposed to its atmosphere, called in the King James Bible “firmament” or “heavens” (Genesis 1:1-2, 6-8). Generally, it might best be rendered by the modern geologic term *lithosphere*. It is this same word that is rendered *land* in other Bible passages, both in the sense of, say, agricultural land, and the land belonging to a specific people or nation, such as “land of Egypt.” Consequently, whenever the text has words like *land*, or *earth*, the underlying Hebrew word would often be the same. I seriously question the wisdom of devising separate categories based on English usage. I also have reservations about Keller’s dedicating separate chapters to the discussion of “Earth” (chapter 4) and “Land and Lands” (chapter 6), particularly since,

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4 The tripartite division of heavens, earth, and seas is found in Nehemiah 9:6; Acts 14:15; Mosiah 13:19.
5 It is, of course, possible that some occurrences of “earth” or “land” in the agricultural context may derive from the Hebrew ʿādāmāh, “ground, soil.” Keller notes “Mormon’s uniqueness in using Earth to mean ‘ground’” (p. 167). His statement illustrates the difficulty of trying to do a study of Book of Mormon words without taking Hebrew into account.
as his own research indicates, the word *earth* is sometimes used in the same sense as a geographical designation of "land."

Keller wrote that "only three writers use *earth* to mean a 'land' or 'region'" (p. 78). In each case, these authors—Nephi, Samuel the Lamanite, and Mormon—are referring to Nephite/Lamanite lands in the New World. While I generally concur with his reading of the passages he cites (pp. 78–9), I see evidence for this use of the word *earth* in other passages. For example, when we read that the wickedness of inhabitants of the city of Jacobugath (not "the city of Jacob" as Keller has it, p. 72) was "above all the wickedness of the *whole earth*" (3 Nephi 9:9), should we understand "the whole earth" to mean the entire planet (Keller’s view) or the whole land inhabited by Lehi’s descendants? I suggest that we have a clue in 3 Nephi 9:1–2, where we read that, after the great destruction, the “inhabitants of the *whole earth*” heard the voice from heaven. This obviously refers only to lands in the New World, not to the entire planet. Another example: Was Nephi’s power to "smite the *earth* with famine, and with pestilence" (Helaman 10:6–7) over the entire planet (see p. 72), or over the land in which he held prophetic stewardship? (Note the reference to "*this* temple . . . *this* mountain . . . *this* people" in verses 8–10.) From the description of his use of those powers in Helaman 11:6, 13, 17, one might conclude that he had such authority only in the land that was his stewardship. Finally, we have 3 Nephi 11:41, where Jesus tells his disciples, “Therefore, go forth unto *this people*, and declare the words which I have spoken, unto the ends of the *earth*." In this case, I would contend that *earth* refers to the land over which the Nephite disciples had stewardship, not the entire planet.

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6 I would modify the assessment of the destruction that took place on "the face of the whole earth" (3 Nephi 8:17, cited by Keller on p. 79) to restrict it to the "land northward" mentioned in 3 Nephi 8:12, where "the whole face of the land was changed," i.e., I see the destruction in 3 Nephi 8:12–18 as occurring not throughout all the lands occupied by the Nephites, but specifically in the land northward. The destruction in the land southward is detailed in 3 Nephi 8:5–11. I believe that, in the future, this distinction will assist archaeologists in their attempts to identify Book of Mormon sites, realizing that only in the land northward might one find great deformation of the earth itself, including breaking up of bedrock during the earthquake.
I found Keller’s assignment of particular occurrences of the word *earth* to be somewhat arbitrary. For example, when 3 Nephi 22:9 speaks of the flood waters of Noah’s time covering the earth, Keller assigns this to the subcategory of “the ground as the essence of the earth” rather than of “planet” or “globe” (p. 77). He may be right, but this assignment has theological implications with which others might disagree.

Nevertheless, Keller makes some significant points in his discussion of the terms *land* and *lands*. “The emphasis among Lehi and his sons,” he writes, “is on the promised land and the land of inheritance.” He further notes that while all three view the New World as the promised land, they have different ideas about the land of inheritance. For Lehi, it is in the New World, while for Nephi and Jacob it is Jerusalem and its environs (p. 136). This seems to me to be highly significant. Here we have Lehi, having foretold the coming captivity of Judah, leaving his homeland for a distant land given him by the Lord for his inheritance, while his sons look forward to the restoration of Israel in the last days. This implies different mindsets and different personalities and therefore stands as evidence that the Book of Mormon is not, as the critics claim, the product of a single mind, that of Joseph Smith. Several of Keller’s observations lead to this same conclusion.

For the category Law/Command, Keller (pp. 21–3, 171–2, 178–9) separates the words into *command, commanded, commandeth, commanding, commandment, commandments, commands, law, law of Moses, and laws*. I question the advisability of separating out different verbal forms. Similarly, it makes little sense to me to separate the singular *commandment* from its plural form. But perhaps that was a requirement imposed by the computer program. In any event, what is significant is the different way in which the same word would be used by different Book of Mormon authors. Thus, for example, Keller shows that some authors (Alma, Amulek, Benjamin, Mosiah, Nephi) use words in this group primarily in the sense of ethical and secular laws and commandments, while others (Abinadi, Jacob, Lehi, Moroni) use them in the theological sense of man’s relationship to God (pp. 23–30). (In each case, Keller explains the orientation of the author.) Mosiah’s use ratio of words from the “command” group was established at 14.41, which might be expected of a king whose
commandments were equated with the commandments of God in Mosiah 2:31 (p. 26). Significantly, Mormon is the only author to use the word *command* in the sense of military or social "leadership" (p. 31). Of particular importance is Keller's observation that "Mormon used the terms of the Law/Command word group in his own unique ways, despite the manner in which these same words may have been used in the surrounding material which he was editing" (p. 32). But "when Mormon is not editing and speaks for himself—in that case the Lord commands" (p. 164). Here, we have the kind of mix one would expect of a prophet who also served as military leader. From his personal perspective, God is the one who commands. But when speaking as a historian, the commands he describes are essentially military or political in nature.

Keller also calls attention to the significance of the distribution of references to Israel in the Book of Mormon. He writes "that the divine figures (for whom Israel is a special people) and persons recently removed from the Near East use the word *Israel* the most per thousand words of their text" (p. 84). Among the mortal authors who employ the word most are Isaiah, Jacob, Nephi, Zenos, and Lehi, all of whom had lived in the Old World and hence had a more direct connection with their Israelite heritage. Lowest in use (in occurrences per thousand words of text) are, significantly, Moroni 2 and his father Mormon. Keller finds it noteworthy that some authors (Alma 2, Amulek, Benjamin, Captain Moroni, Enos, Helaman, Mosiah, Samuel, and Zeniff) never use the term (pp. 84-5, 159). The importance of this distribution cannot be overstressed, and Keller rightly devotes an entire chapter to the subject.

On pages 18-19, Keller lists, in alphabetical order, all his designated authors of the Book of Mormon and the principal word clusters or topics discussed by each (i.e., those ranked 1.5 or higher). The list is useful for showing what was important to each author and goes a long way toward establishing individual authorship.

For example, Keller notes that Mormon and his son Moroni are the only authors who use "directional designations with respect to various land regions," using such terms as *land north(ward), land south(ward)*, and the like. He further notes that
this father-son team share “unique language . . . in referring to
the lands of which they speak” (p. 126). He illustrates this by
means of a chart (p. 127). If, in fact, Mormon is not drawing these
terms from the records he is abridging, this is significant indeed. It
emphasizes that, for these two military leaders who saw action over
a widespread area of Nephite lands and who had to plan their
strategy in accordance with the topography of the land, geogra­
phy was an important issue. Keller writes, “Mormon shows almost
no interest in the theological implications of land. As indicated
earlier, he is the geographer par excellence. Even his few refer­
ences in the ‘special use’ category are, for the most part, geo­
graphic in nature” (p. 144).

A sample chart of word clusters comparing the sermons of
Nephi, and Alma also shows vastly different priorities in subject
matter (p. 12). While Nephi places more emphasis on the ancient
Near East, the gathering of Israel, and prophecy than on other ar­
eas, Alma places both of these at the bottom of his list and empha­
sizes instead eschatology, spiritual matters, slavery, and ethics.7
Keller notes that these results parallel the fact that Nephi came
from the ancient Near East and, as part of scattered Israel, was in­
tensely interested in its gathering, while Alma, who lived five hun­
dred years later, had different priorities. And while both writers
give about equal weight to the subject of Christ, they emphasize
different aspects. Thus Nephi uses the title Lamb 22 times, Alma
only twice, while Alma makes much more use of the term resurrection (pp. 12–3).

I found Keller’s examination of individual author word use to
be an important contribution to the study of the Book of
Mormon, although I disagree with some parts of his categorization
methodology. However, I suspect that in his final conclusions he
and I see eye to eye, for he wrote that “even though there is yet
much refinement necessary in the tools being used, clear differ­
ences are seen between individual author uses of the thirty meas­
ured word clusters, indicating important differences in word use”
(p. 11). No summary I might write could say it better.

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7 See Keller’s in-depth discussion of the variant emphases in chapter 7.