

SECTION 10: CONCLUSIONS AND RESULTS

Editor's Note: *Due to the brevity of this paper, no executive summary is necessary. See http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/ for more information. This paper was last updated 12 October 2009.*

This document is a partial analysis of the scholarly merits of the evidence and research used by Rodney Meldrum¹ in his firesides and DVD presentation, *DNA Evidence for Book of Mormon Geography*.² Neither FAIR nor this document take any position on the geographic location of Book of Mormon events.³ It is important, however, that Meldrum's theories be analyzed according to the same standards by which other Book of Mormon geography theories are evaluated. To avoid confusion, this paper refers to Meldrum's geographic model as the Limited North American Model, or LNAM.⁴ This document is just one in a series of such analytical documents.

In this document we examine Meldrum's conclusions and results. This examination addresses, specifically, Part 17 of the DVD presentation, which is titled "Conclusions and Results."

At the conclusion of his four-hour presentation, Meldrum concludes with a testimony:

I can stand before you as a witness, that *not only do I know* that the Book of Mormon is true spiritually, I believe that is the most important of all the

¹ This paper follows the scholarly custom of referring to an individual, at first reference, by full name and then subsequently referring to the individual by last name only. We fully recognize Rodney as a brother in the gospel, but in discussing secular issues (such as scholarly research and geographic models) it was felt that continually prefacing his name or the name of any other referenced scholar or individual with "Brother" or "Sister," while accurate, would distract from the readability of the paper.

² Rodney Meldrum, *DNA Evidence for Book of Mormon Geography: New scientific support for the truthfulness of the Book of Mormon; Correlation and Verification through DNA, Prophetic, Scriptural, Historical, Climatological, Archaeological, Social, and Cultural Evidence* (Rodney Meldrum, 2008). The DVD is in sections; citations in this paper reference the DVD's section number and title, followed by an approximate time stamp from the DVD.

³ FAIR recognizes that faithful individuals and scholars can honestly disagree on where Book of Mormon events took place; there is no revealed or officially accepted geography. FAIR provides an online reference to over 60 different geographic models at http://en.fairmormon.org/Book_of_Mormon_geography (click on Book of Mormon Geographical Models).

⁴ Meldrum's model places Book of Mormon peoples in an area roughly covering the Atlantic seaboard to the Rocky Mountains. This name was chosen as descriptive of the general model. We recognize that Meldrum may pick a different name at some point and would invite him to do so.

possible ways that you can know that the Book of Mormon is true, but the Book of Mormon is more than just a spiritual record.⁵

No Latter-day Saint—including members of FAIR—would disagree that the Book of Mormon is true, or that it occurred in the real world. It is more problematic, however, that Meldrum goes on to argue that the secular knowledge which he has presented will complement and reinforce testimony. "Not only do[es he] know" it is true spiritually, but

The Book of Mormon is a literal history of real people. And they were really here. And *their evidence is here. And their DNA was left behind. And their civilizations were left behind.*⁶

It is again troubling that Meldrum bears his testimony about *secular* claims, such as the claim that Nephite DNA is here to be found and that "their evidence," which he believes he's presented, is a valid witness. As already presented, much of the information he presents is mistaken or distorted. The gospel of Christ, and its disciples, deserve much better.

In an attempt to reinforce how much evidence he has amassed, Meldrum compares his model to his caricature of the Mesoamerican model.⁷ He does this quickly, and so we shall too. While his list full of checkmarks may look impressive, the substance is lacking.

1. DNA MATCHING INDIANS WITH HEBREWS (DRUZE)

The Indians are X2a and the Druze include X2e. Meldrum rejected others in Siberia with X2e as possible ancestors. The Druze are not Hebrews and likely reflect DNA from long before the Lehi period. See "Section 1: DNA Evidence."⁸

2. PRESENT DAY HOPEWELL INDIANS HAVE LIGHT SKIN

Meldrum here makes an assertion for which he presents no data. This matter is not discussed in any detail in the DVD. A variety of skin tones are also known in locales suggested by other geographic models. Why would Hopewell be light skinned (even if we assume that Book of Mormon meant that) if the Nephites were destroyed? Why would light skin persist through centuries of assimilation and intermarriage?

⁵ Meldrum, *DNA Evidence*, section 17, "Conclusions and Results," 3:42-4:02, emphasis added. Note that Meldrum is bearing testimony of more than just the spiritual verity of the Book of Mormon.

⁶ Meldrum, *DNA Evidence*, section 17, "Conclusion and Results," 4:02-4:15, emphasis added.

⁷ In logical terms, this technique is known as making a straw man argument. One presents one's side of the story, but compares it to a caricature of the opponent's position. While sometimes effective, this approach is intellectually lacking.

⁸ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG01F.html

3. MATCHES JOSEPHS SMITH REVELATIONS AND HISTORICAL RECORD

Joseph Smith's opinion has been distorted and misrepresented. See "Section 3: Joseph Smith."⁹

4. NA CONTAINS NARROW NECK OF LAND WHICH CAN BE CROSSED IN 1 AND 1/2 DAYS (UNLIKE C[ENTRAL] A[MERICA] WHOSE NECK WOULD TAKE AT LEAST 10 DAYS)

The DVD has distorted the Mesoamerican narrow neck distances and travel times—see "Section 2: Geography."¹⁰

In any case, this is a moot point. Many geographic theories claim a time-appropriate narrow neck. That is a single element of easily found in many models. What cannot be easily found—and what the LNAM model lacks—is a corresponding set of distance-appropriate and spatially appropriate locations.

5. WHERE JOSEPH SENT THE FIRST MISSIONARIES WHERE HE CLAIMED WERE THE DESCENDANTS OF THE NEPHITES.

See "Section 3: Joseph Smith,"¹¹ and "Section 4: Prophecy and Scripture."¹²

6. CONTAINS THE LOCATION OF THE ORIGINAL HILL CUMORAH

The location of the original hill is a question to be determined from the analysis of the data. Since the New York site was only called "Cumorah" after the fact by early Saints, the only reason for assuming that it was the original hill is that the plates were found there. However, the Book of Mormon never says that the plates were buried in the Hill Cumorah. In fact, Moroni had them years after he left that location. Moroni doesn't tell us where he buried them.

See "Section 2: Geography."¹³

⁹ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG03F.html

¹⁰ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG02F.html

¹¹ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG03F.html

¹² Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG04F.html

¹³ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG02F.html

7. HAS THE LOCATION OF THE NEW JERUSALEM

True, but irrelevant. See "Section 4: Prophecy and Scripture."¹⁴

8. LOCATION OF ZION

It is the location of the *city* of Zion. Prophets and apostles have repeatedly taught that all of the western hemisphere is Zion. See "Section 4: Prophecy and Scripture."¹⁵

9. IT'S THE LAND OF PROMISE

Meldrum's case is based on a narrow, modern reading of the text, a reading that ignores what Joseph Smith and other prophets and apostles taught on the subject. See "Section 4: Prophecy and Scripture."¹⁶

10. THE NATION ABOVE ALL OTHER NATIONS

See point #9.

11. THE LAND OF LIBERTY

See point #9.

12. CONTAINS CITY OF ZARAHEMLA BY REVELATION

The claim that Joseph or the Lord identified this as the *Nephite* Zarahemla is dubious. The DVD presentation elevates a slight possibility into a certainty. See "Section 2: Geography"¹⁷ and "Section 4: Prophecy and Scripture."¹⁸

13. CIVILIZATION AND CULTURE OF THE MOUND BUILDERS ARE IN PROPER CHRONOLOGY TO BOOK OF MORMON PEOPLES.

The Hopewell are slightly later, though this is not much of a problem (assumed about 400 B.C.). However, equating the peoples is a problem if one claims the Hopewell were

¹⁴ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG04F.html

¹⁵ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG04F.html

¹⁶ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG04F.html

¹⁷ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG02F.html

¹⁸ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG04F.html

Nephites. Making a connection based on the assumed dates sets up a possibility, but not a proven correspondence, since the Hopewell culture was demonstrably built upon earlier populations. See "Section 8: Chronological Evidence."¹⁹

Further, the patterns of migration in the Book of Mormon does not match the Hopewell, nor do many cultural aspects. There are also no antecedents for Jaredites in the proper place or time. See "Section 5: Identifying the Nephites."²⁰

14. CONTAINS TEMPLE STRUCTURES "LIKE UNTO SOLOMON'S TEMPLE."

Neither Mesoamerican nor Hopewell temples match Solomon's temple. See "Section 5: Identifying the Nephites."²¹

15. HOPEWELL TEMPLES WERE USED FOR PROPER PURPOSES (MAYAN TEMPLES WERE USED FOR HUMAN SACRIFICE)

Granting that human sacrifice is not a "proper purpose" for a Nephite temple, there is no specific evidence of the religious rites that were performed in the Hopewell temples. Saying that they were used for "proper purposes" cannot be supported by extant evidence. How does Meldrum know what Hopewell did in their temples? Why does he use pictures of Hopewell mounds that are too late (chronologically) to be Nephite? "Section 5: Identifying the Nephites."²²

16. CLIMATE HAD SEASONS OF THE YEAR

Mesoamerica also has seasons. (Meldrum compares the LNAM to the Mesoamerican geographical model.) The North American seasons do not match the seasons of warfare and harvest as indicated in the Book of Mormon. The DVD presentation misrepresents the climate and seasonal data. See "Section 6: Weather and Climate."²³

17. TIMBER POTENTIALLY SCARCE

The word *potentially* disguises the fact that the DVD presents no evidence that it *was* scarce. The Mesoamerican model has an area with known cement use and deforestation. The LNAM does not provide such data.

¹⁹ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG08F.html

²⁰ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG05F.html

²¹ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG05F.html

²² Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG05F.html

²³ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG06F.html

18. TORNADO FORMATION LIKELY AND IN THE HISTORICAL RECORD

Tornadoes do not have to be "likely" in the Book of Mormon; they only have to occur at Christ's crucifixion. Mexico and Central America also have tornadoes; they can be seen in the historical record. See "Section 6: Weather and Climate."²⁴

19. LARGE MAMMAL MIGRATIONS, BISON

The Book of Mormon does not call for "large mammal migrations." The LNAM is incorrect on almost every issue related to the bison. In the Book of Mormon animal movements were due to drought and snakes, not migration. See "Section 7: Buffalo Evidence."²⁵

20. NEPHITE EXPANSION MATCHES CIVILIZATION REMAINS

Nephite expansion was south to north, but the Hopewell moved north to south. See "Section 5: Identifying the Nephites."²⁶

21. CIVILIZATION MATCHES BOOK OF MORMON DESCRIPTION

The match is not a particularly good one and it uses sufficiently generic terms that such a "match" could be made in a number of places. The pattern of migration noted in the Book of Mormon does not match the Hopewell. Many cultural aspects described in the Book of Mormon do not match the Hopewell. See "Section 5: Identifying the Nephites."²⁷

22. ARCHAEOLOGICAL SITES MATCH NEPHITE DEFENSES

Both Hopewell and Mesoamerican cultures have defensive systems that match the Book of Mormon descriptions, as do many other areas (e.g., Wales). This feature does not allow a choice between the alternatives. "Section 5: Identifying the Nephites."²⁸

²⁴ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG06F.html

²⁵ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG07F.html

²⁶ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG05F.html

²⁷ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG05F.html

²⁸ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG05F.html

23. HOPEWELL USED STONES TO BUILD WALLS BUT NOT CITIES

The presentation mistakes the role of stone cities, presumes that present Mesoamerican cities date from Nephite times, and draws erroneous conclusions. See "Section 9: Nephite Structures."²⁹

24. USE OF TIMBER FOR CITY WALLS

This is also true in other geographic models (such as the Mesoamerican model) and many other areas of the world. It is not, therefore, useful for making a distinction. See "Section 9: Nephite Structures."³⁰

25. WOOD USED AS PRIMARY BUILDING MATERIAL

This is also true in other geographic models (such as the Mesoamerican model) and many other areas of the world. It is not, therefore, useful for making a distinction. See "Section 9: Nephite Structures."³¹

26. CITIES WERE BURNED BECAUSE THEY WERE MADE OF WOOD

This is also true in other geographic models (such as the Mesoamerican model) and many other areas of the world. It is not, therefore, useful for making a distinction. Furthermore, stone cities can be burned. See "Section 9: Nephite Structures."³²

27. NORTH, SOUTH, EAST AND WEST SEAS "DIVIDE THE LAND."

This is dependent upon the way the text is read and how one uses the word "sea." Because it is interpretive, it can be evidence only after the rest of the evidence is established that can bolster the interpretation. Similarly, the interpretation of seas in the Mesoamerican model (to which the presentation compares the LNAM) works—if one accepts the data that otherwise establish the geography.

The LNAM has seas which make directional sense only from the land northward, which the Nephites inhabited only late in their history. During the time periods when the DVD suggests the seas would have received their names, the Nephites are not living anywhere near them. See "Section 2: Geography."³³

²⁹ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG09F.html

³⁰ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG09F.html

³¹ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG09F.html

³² Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG09F.html

³³ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG02F.html

28. CIVILIZATION DISAPPEARS SAME TIMES AS NEPHITES

This is also true in other geographic models (such as the Mesoamerican model). The cause of the Hopewell collapse is thought to be ecological failure, not wars of extermination as in the Book of Mormon. See "Section 5: Identifying the Nephites."³⁴

29. BOOK OF MORMON PEOPLE LIVED IN TENTS

Book of Mormon peoples did not usually live in tents. Typically they lived in rather established cities. The LNAM misrepresents the lifestyle of the Hopewell and Great Plains people in Book of Mormon times. See "Section 5: Identifying the Nephites"³⁵ and "Section 7: Buffalo Evidence."³⁶

30. DNA EVIDENCE CONCENTRATED ALONG THE RIVERWAY

The presentation misrepresents almost every paper cited on genetics. The presentation offers conclusions completely opposed to those made by the quoted papers. The presentation also omits information from genetic research that directly contradict its theories. There is little of value in the DNA portions of the presentation, as it disagrees with acknowledged experts in and out of the Church without engaging their data.

The proffered river data is not even from the real world—it is from one iteration of a computer simulation whose assumptions violate the LNAM.

Haplotype X2a cannot, at present, be used as a marker for Lehites. See "Section 1: DNA Evidence."³⁷ See also "Section 3: Joseph Smith."³⁸

31. BOOK OF MORMON ARTIFACTS SUCH AS HEADPLATES FOUND

The presentation does not prove the artifacts are connected to the Book of Mormon. Hopewell headplates were likely ceremonial; Mesoamerican headplates were used in warfare (as in the Book of Mormon). At best, these are not useful for making a distinction between geographic models. See "Section 5: Identifying the Nephites."³⁹

³⁴ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG05F.html

³⁵ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG05F.html

³⁶ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG07F.html

³⁷ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG01F.html

³⁸ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG03F.html

³⁹ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG05F.html

32. WAR ARTIFACTS PREVALENT FROM ARCHAEOLOGY

Any Book of Mormon geographic model of which we are aware can make this claim. Constant warfare is a sad fact of virtually all of human history, so this does not help distinguish the geography at all.

33. ARTIFACTS DEPICTING CHRIST IN AMERICA

The Michigan artifacts are clear fakes. Despite the presentation's earlier claim that Meldrum removed the artifacts from his presentation, they are here used as "evidence," demonstrating that they have not been abandoned at all. See "Section 5: Identifying the Nephites."⁴⁰

34. CANDIDATE CIVILIZATION FOR THE JAREDITES

No candidate civilization is explored in the presentation, and those we know of do not match the archaeological data. See "Section 5: Identifying the Nephites."⁴¹

35. HOPEWELL CONTAINS ORAL HISTORY OF MASS EXTINCTION

This is another conclusion for which the presentation provides no evidence. Many cultures underwent mass extinctions. Oral histories are very tricky things to work with as history, and there are any number of tales of mass extinctions for one reason or another.

36. FULFILLS ALL 'PROMISED LAND' PROPHECIES

See point #9.

37. WHERE THE GOSPEL WOULD BE RESTORED

This is not a textually appropriate clue. It is evidence only if we accept the original premise and is therefore circular. See "Section 4: Prophecy and Scripture."⁴²

⁴⁰ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG05F.html

⁴¹ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG05F.html

⁴² Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG04F.html

38. WHERE THE BOOK OF MORMON CAME FORTH

This is not a very strong geographic marker. It would be a plausible argument if and only if more significant markers were present. The Book of Mormon states specifically that its plates were not buried in Nephite Cumorah.

39. SITES OF HISTORICAL SIGNIFICANCE: GARDEN OF EDEN, ADAM-ONDI-AHMAN, NEW JERUSALEM, ETC.

It is not clear what the "etc." refers to, and the first two places are irrelevant, since the Book of Mormon never claims to reference the geographical locations of the Garden of Eden or Adam-ondi-Ahman (and the presentation provides no evidence about their relevance). As to the New Jerusalem, see point #8.

40. RIGHTEOUS MEN RAISED UP TO ESTABLISH THE CONSTITUTION WHICH 'BELONGS TO ALL MANKIND.'

This does not require the same geography. See "Section 4: Prophecy and Scripture."⁴³

CONCLUSION

Do not forget that Meldrum claimed revelation and inspiration for his efforts in an e-mail to supporters. He also claims that Joseph Smith made revelatory statements about a North American geography which the Church and its leaders have not endorsed. Meldrum criticizes those who disagree with him—including members of the Neal A. Maxwell Institute for Religious Scholarship at BYU—as dismissing the prophetic words of Joseph.⁴⁴

Yet, his appeals to inspiration and supposed revelation violates the order of the Church, contradict scripture, and rely on a clear distortion of the words of Joseph Smith, Gordon B. Hinckley, and numerous scientists (both non-LDS and faithful LDS). None of the DVD's forty points hold up under examination—they either apply at least as well to other geographic models or they do not apply to the DVD model as Meldrum asserts.

The theories and methods offered by the DVD cannot be recommended.

⁴³ Available at http://www.fairlds.org/DNA_Evidence_for_Book_of_Mormon_Geography/DEBMG04F.html

⁴⁴ For a full analysis of each of these points, see *Misguided Zeal and Defense of the Church*, http://www.fairlds.org/Book_of_Mormon/MisguidedF.html