

INTERPRETER



A JOURNAL OF LATTER-DAY SAINT
FAITH AND SCHOLARSHIP

Volume 32 · 2019 · Pages 77 - 186

**Joseph Smith:
The World's Greatest Guesser
(A Bayesian Statistical Analysis of Positive
and Negative Correspondences between
the Book of Mormon and The Maya)**

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Offprint Series

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ISSN 2372-1227 (print)
ISSN 2372-126X (online)

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**JOSEPH SMITH:
THE WORLD'S GREATEST GUESSER
(A BAYESIAN STATISTICAL ANALYSIS OF
POSITIVE AND NEGATIVE CORRESPONDENCES
BETWEEN THE BOOK OF MORMON
AND *THE MAYA*)**

Bruce E. Dale and Brian M. Dale

Abstract: *Dr. Michael Coe is a prominent Mesoamerican scholar and author of a synthesis and review of ancient Mesoamerican Indian cultures entitled *The Maya*.¹ Dr. Coe is also a prominent skeptic of the Book of Mormon. However, there is in his book strong evidence that favors the Book of Mormon, which Dr. Coe has not taken into account. This article analyzes that evidence, using Bayesian statistics. We apply a strongly skeptical prior assumption that the Book of Mormon “has little to do with early Indian cultures,” as Dr. Coe claims. We then compare 131 separate positive correspondences or points of evidence between the Book of Mormon and Dr. Coe’s book. We also analyze negative points of evidence between the Book of Mormon and *The Maya*, between the Book of Mormon and a 1973 Dialogue article written by Dr. Coe, and between the Book of Mormon and a series of Mormon Stories podcast interviews given by Dr. Coe to Dr. John Dehlin. After using the Bayesian methodology to analyze both positive and negative correspondences, we reach an enormously stronger and very positive conclusion. There is overwhelming evidence that the Book of Mormon has physical, political, geographical, religious, military, technological, and cultural roots in ancient Mesoamerica. As a control, we have also analyzed two other books dealing with ancient American Indians: *View of the Hebrews* and *Manuscript Found*. We compare both books with *The Maya* using the same statistical methodology and demonstrate that this*

1. Michael D. Coe and Stephen Houston, *The Maya*, 9th ed. (New York: Thames and Hudson, 2015).

methodology leads to rational conclusions about whether or not such books describe peoples and places similar to those described in The Maya.

The ancient American setting of the Book of Mormon is a subject of debate and discussion. Among the prominent skeptics of the Book of Mormon is Dr. Michael D. Coe, the Charles J. McCurdy Professor Emeritus of Anthropology at Yale University.² In an article published in *Dialogue* in 1973, Dr. Coe summarized his opinion regarding an ancient American setting for the Book of Mormon in these words: “The picture of this hemisphere between 2,000 BC and AD 421 presented in the book has little to do with early Indian cultures as we know them, in spite of much wishful thinking.”³

Beyond this article, Dr. Coe does not seem to have written anything else about the Book of Mormon. An extensive review of his published papers and books using Google Scholar found only this 1973 *Dialogue* article that deals with the Book of Mormon. However, in a series of three podcast interviews with John Dehlin in 2011, Dr. Coe strongly reinforced his essentially negative view of the historicity of the Book of Mormon.⁴ Dr. Coe gave three more podcast interviews to Dr. Dehlin in 2018 in which he repeated many of his earlier criticisms of the Book of Mormon and provided some new ones.⁵ According to Dr. Coe, “99% of everything that the Book of Mormon has as details is false.”⁶

Dr. Coe is obviously not a partisan advocate for the Book of Mormon. In fact, he cannot be. He doesn’t know enough about the Book of Mormon to offer a valid scholarly opinion one way or the other. He read the Book of Mormon only once, more than 45 years ago.⁷

Dr. Coe’s synthesis and review of Mesoamerican archaeology thus provides an excellent test of the Book of Mormon. Dr. Coe’s book *The Maya* makes a number of factual statements about the physical, political,

2. “Michael Coe,” Yale University (website), Department of Anthropology, accessed October 22, 2017, <http://anthropology.yale.edu/people/michael-coe>.

3. Michael Coe, “Mormons and Archaeology: An Outside View,” *Dialogue: A Journal of Mormon Thought* 8, no. 2 (Summer 1973): 42.

4. John Dehlin, “268–70: Dr. Michael Coe — An Outsider’s View of Book of Mormon Archaeology,” August 12, 2011, in *Mormon Stories*, podcast, <https://www.mormonstories.org/podcast/michael-coe-an-outsiders-view-of-book-of-mormon-archaeology/>.

5. John Dehlin, “905–07: Mesoamerican Archaeologist Dr. Michael Coe — LiDAR, Response to John Sorenson, and the Book of Mormon,” April 9, 2018, in *Mormon Stories*, podcast, <https://www.mormonstories.org/podcast/dr-michael-coe/>.

6. Dehlin, “Dr. Michael Coe — An Outsider’s View of Book of Mormon Archaeology,” episode 270, 27:32.

7. Dr. Michael Coe, email message to author, December 1, 2017.

geographical, religious, and cultural aspects of ancient Mesoamerica. Given his very negative view of the Book of Mormon, it is impossible to claim that the facts Dr. Coe selected might intentionally favor the Book of Mormon.

There are strong reasons for suspecting ancient Mesoamerica as the physical location of Book of Mormon events in the New World.⁸ If so, Dr. Coe's book should correspond with at least some of the statements asserted as fact in the Book of Mormon, taking into account that the objective of the Book of Mormon is to testify of Jesus Christ. The Book of Mormon is not primarily about the history, wars, geography, culture, etc., of Book of Mormon peoples, although it nonetheless manages to tell us a great deal about these topics. Likewise, we do not expect a book about Italian cuisine to tell us much about Italian architecture or the politics of the Roman Empire, although it may incidentally contain a good bit of such information in context.

If the Book of Mormon is not what it claims to be, then it is a work of fiction. It is simply false, as Dr. Coe obviously believes it to be. There are no other rational options. If the Book of Mormon is a piece of fiction, then some person or persons in the early 1800s made it up. If the Book of Mormon is fiction, then its author was guessing every time he wrote as fact something about the ancient inhabitants of the Americas. This means we can compare reasonably these "guesses" in the Book of Mormon with the facts presented by Dr. Coe in *The Maya*.

Thus we take the statements of fact in *The Maya* as essentially true, and we compare the "guesses" in the Book of Mormon with these statements of fact. To repeat, for purposes of our Bayesian statistical analysis, we accept the universe of facts summarized by Dr. Coe in *The Maya* as essentially true. We then rate the value of each "guess" in the Book of Mormon (or statement of fact) as evidence using three criteria:

1. Is it specific? Is it clear that the guess in the Book of Mormon is directly comparable to a statement of fact in *The Maya*?
2. Is it specific and detailed? Are there important details in each guess in the Book of Mormon that correspond to at least some of the details given in *The Maya*?
3. Is it specific, detailed, and unusual? Is the statement of fact in the Book of Mormon (or "guess") unusual in the sense that someone writing the book in the early 1800s would probably not have the background or knowledge to include

8. John L. Sorenson, *Mormon's Codex: An Ancient American Book* (Salt Lake City: Desert Book, 2013).

this statement of fact in his work of “fiction,” that is, the Book of Mormon?

We assign a number to the quality or strength of the evidence for (or against) the hypothesis as follows: The numbers 2, 10, and 50 are the strength of the evidence for the hypothesis, that is, the hypothesis that the Book of Mormon is a work of fiction. The numbers 0.5, 0.1, and 0.02 are the corresponding strength of the evidence against the hypothesis; that is, these are points of evidence that support the historicity of the Book of Mormon. Illustrative examples are given below following a brief introduction to statistics in general and Bayesian statistics in particular.

Insights from Basic Statistics

Statistics describes the probability (likelihood) of events occurring within a given population. A population is a set of related items or events of interest for some test we wish to perform. In this case, the population we wish to test is the factual statements in the Book of Mormon and corresponding factual statements in the book *The Maya*. We wish to determine whether or not the Book of Mormon agrees or disagrees in a statistically significant way with what is known about ancient Mesoamerica as summarized in Dr. Coe’s book *The Maya*.

One of the simplest illustrations of probability is given by rolling dice. The statistical population of interest here is the possible values (1 through 6) on the six sides of the die. Since a die has six possible values, then there is a one in six chance (16.66666% of the time) that the value 1 will turn up when the die is cast, and the same probability exists for each of the other values 2 through 6. If two dice are thrown, then each die is independent of the other, and there is still only a one in six chance that any given value will turn up for that die when it is rolled.

Here is a key point for statistical analysis: *probabilities of individual, statistically independent events must be multiplied together to calculate the probability of all the individual events occurring simultaneously.*

The probability of each individual die coming up with a 1 is 16.666... %, but the probability of rolling “snake eyes,” or two dice coming up with a 1 on the same roll (simultaneously), is not 16.6%. It is 16.6% (0.166) times 16.6% (0.166), which is about 0.02756, or approximately 2.76% of the time. So, roughly three times out of a hundred times, snake eyes will result when two dice are rolled simultaneously. Further, if we roll three dice at the same time, what will be the probability of rolling three 1s? By the formula, it is $0.166 \times 0.166 \times 0.166$, which is about 0.00457, or about five times in a thousand rolls of the dice.

How about three different events, each with different individual probabilities, all occurring together? Let's say the first event has a probability of 1 in a hundred (0.01), the probability of the second event is one in a thousand (0.001), and the third is one in ten (0.1). What is the probability of all three of these events occurring simultaneously if they are part of the same population? It is $0.01 \times 0.001 \times 0.1 = 0.000001$ or 1 in a million. The probability that all these events will *not occur together* is 1.0 minus the probability that they all will occur together. In this example, it is 1.0 minus 0.000001 or 0.999999, or 99.9999%, or 999,999 to 1.

In the real world, we usually don't experience the mathematically well-defined probabilities that rolling dice offers. Instead, we usually deal with "odds" or "likelihoods," many of which are somewhat subjective. By *subjective*, we mean the person performing the test must decide for him or herself what constitutes strong evidence, what evidence is positive, and what evidence is supportive but not particularly strong. These are the three relative strengths of evidence summarized above: (1) specific (Bayesian "supportive"), (2) specific and detailed, (Bayesian "positive") and (3) specific, detailed, and unusual (Bayesian "strong").

Bayesian Statistics: A Rational, Scientific Approach to Weighing Evidence

Bayesian statistics provides one approach to the situation in which mathematically well-defined probabilities do not exist.⁹ In fact, Dr. Coe's book refers to the use of Bayesian statistics to weight and thereby includes or excludes specific pieces of archaeological data.¹⁰ In the Bayesian approach, the strength of each piece of evidence is the likelihood ratio, which is the probability of the evidence assuming that the hypothesis is true divided by the probability of the evidence assuming that the hypothesis is false.

The Bayesian approach is a powerful and general tool for evaluating hypotheses and then rationally updating one's prior beliefs in the face of the new evidence. The Bayesian approach has been applied to diverse topics

9. For a good introductory article to Bayesian statistics, see Wikipedia, s.v. "Bayes Theorem," last edited October 26, 2018, 10:20, https://en.wikipedia.org/wiki/Bayes%27_theorem#Bayes.E2.80.99_rul.

10. Coe and Houston, *The Maya*, 7.

ranging from astronomy¹¹ to zoology.¹² Of particular interest here, Bayesian methods have been applied to analyze historical document collections,¹³ to historical and biblical archaeology,¹⁴ and to the detection of fraud and deception.¹⁵

We can assign a likelihood ratio or “Bayes factor” to each statement of fact given in the Book of Mormon and compare these statements with corresponding statements of fact in *The Maya*. This likelihood ratio is the strength of each individual statement of fact as a piece of evidence. It is calculated as the probability that the statement is true if whoever wrote the Book of Mormon was guessing divided by the probability that the statement is true if instead the Book of Mormon is fact-based and essentially historical. The likelihood ratio expressed in this way therefore represents the strength of the evidence in support of the hypothesis, that is, against the factual nature of the Book of Mormon.

Note: only statements of fact which are dealt with by both books can be rationally admitted to the analysis; on statements of fact where one or the other book is silent, we cannot factually assume either agreement or disagreement. There is no rational scientific basis for doing so.

At first glance this method may appear similar to the discredited method of parallels; however, the Bayesian approach overcomes the weaknesses of the method of parallels. First, the Bayes factor specifically accounts for the possibility that the evidence may have occurred under the other hypotheses. This is accomplished in the denominator of the Bayes factor. Second, by using a numerical Bayes factor, the person performing the analysis explicitly estimates the strength of

11. Thomas J. Loredo and Don Q. Lamb, “Bayesian analysis of neutrinos observed from supernova SN 1987A,” Cornell University Library (website), July 14, 2001, <https://arxiv.org/abs/astro-ph/0107260>.

12. Héctor E. Ramírez-Chaves, et al., “Resolving the evolution of the mammalian middle ear using Bayesian inference,” *Frontiers in Zoology* 13, no. 1 (2016): 1, <https://frontiersinzoology.biomedcentral.com/articles/10.1186/s12983-016-0171-z>.

13. Daniel David Walker, “Bayesian Test Analytics for Document Collections,” *All Theses and Dissertations* 3530 (2012), <https://scholarsarchive.byu.edu/etd/3530>.

14. Thomas Levy, et al., “High-precision radiocarbon dating and historical biblical archaeology in southern Jordan,” *Proceedings of the National Academy Sciences of the United States of America* 105, no. 43 (Oct 28, 2008): 16460–65, <https://europepmc.org/articles/pmc2575442>.

15. Mykhailo Granik and Volodymyr Mesyura, “Fake news detection using naive Bayes classifier” (paper, IEEE First Ukraine Conference on Electrical and Computer Engineering, Kiev, Ukraine, May-June 2017), <https://ieeexplore.ieee.org/abstract/document/8100379/>.

any given piece of evidence. Ultimately, the Bayes method resembles similarity-based techniques for detecting deception in online reviews.¹⁶

Once we have chosen the likelihood of guessing correctly about each individual fact, we then multiply the likelihoods of guessing right about each of these specific facts. The number obtained by multiplying all the individual likelihoods together is the strength of the total body of evidence that whoever wrote the Book of Mormon was guessing about these fact claims.

Thus the overall Bayes factor or likelihood ratio is the weighted strength of the evidence, and it tells us how much we should change our prior beliefs based on the new evidence. We start with some prior odds, representing our beliefs about the hypothesis before seeing the evidence. In order to be rational and intellectually honest, once we have seen the new evidence, we must update our beliefs accordingly to obtain our posterior odds, or the odds that the hypothesis is true after accounting for the strength of the new evidence, both pro and con, and our previous beliefs expressed as the prior odds.

The Bayesian approach to data analysis is frequently used in medical tests.¹⁷ For example, if a disease is somewhat rare, then a randomly selected individual might have “skeptical prior odds” of 1:1000 against them having the disease. If the test has a likelihood ratio of 100 (a good medical test for screening), then our posterior odds following a positive test for the disease would be $1:1000 \times 100 = 1:10$ against the person actually having the disease. In other words, the individual piece of evidence given by the test changed our minds substantially (from 1:1000 against to 1:10 against); but because we were initially quite skeptical (1:1000) that the person had that particular rare disease, we still think it is more likely they do not have the disease (1:10). A rational doctor would then call for a more definitive test to give additional information, and we would continue to update our opinion as we received new information.

16. Niall J. Conroy, Victoria L. Rubin and Yimin Chen, “Automatic deception detection: Methods for finding fake news,” *Proceedings of the Association for Information Science and Technology* 52, no. 1 (February 24, 2016), <https://onlinelibrary.wiley.com/doi/full/10.1002/pr2.2015.145052010082>.

17. John K. Kruschke, “Lessons from Bayesian disease diagnosis: Don’t over-interpret the Bayes factor, VERSION 2,” *Doing Bayesian Data Analysis* (blog), December 27, 2015, http://doingbayesiandataanalysis.blogspot.com/2015/12/lessons-from-bayesian-disease-diagnosis_27.html.

Bayesian Analysis of the Facts Given in the Book of Mormon and *The Maya*

For the subject of this article — the factual nature of the Book of Mormon — we choose to start with extremely large “skeptical prior odds” against the book. We allow only a 1:1,000,000,000 (one in a billion) prior odds that the Book of Mormon is a historical document. Thus we start with odds of 1,000,000,000:1 (a billion to one) that the statements of fact in the Book of Mormon are just guesses made by whoever wrote the book.

This means that even before we look at the new evidence, we are very confident that the Book of Mormon is a work of fiction. We would require cumulative supporting evidence with a likelihood of 0.000000001 (one in a billion) in order to change our beliefs to the point where we would consider “even odds” (1:1) that the book is fact-based. We would require evidence even stronger than that to consider it likely or be confident that the Book of Mormon is not a work of fiction, that is, that it is an accurate historical record, based substantially on facts.

It is a common error (deliberate or otherwise) to consider only a few pieces of evidence when examining the truth or falsity of a given hypothesis. In the extreme, this practice is called *cherry-picking*. In cherry-picking, evidence against one’s existing hypothesis is deliberately excluded from consideration. This practice is, of course, dishonest. It is another common error to consider some pieces of relevant evidence as having infinite weight or having zero weight compared to other pieces of evidence. This practice is irrational and unscientific.

These practices of cherry-picking or overweighting/underweighting evidence cannot be allowed in scientific enquiry. They are neither rational nor honest. We must consider all relevant evidence if we hope to make honest, rational decisions. Also, no piece of evidence has infinite weight. There are always limitations on the strength of any individual piece of evidence. Assuming a piece of evidence has infinite weight is equivalent to saying the question is already decided and is therefore beyond the scope of further rational, honest enquiry.

The value of Bayesian statistics is that it provides a disciplined, formal way of bringing available evidence to bear on a given question. The evidence is weighted according to its probative value and the cumulative strength of the evidence for and against the hypothesis being tested. The hypothesis (the question of interest to us) in this analysis is the factual nature of the Book of Mormon. The question of interest is: “Is the Book of Mormon a work of fiction, or is it a factual, historical document according to the cumulative, relevant evidence summarized in *The Maya*?”

To perform our analysis, we assign one of three likelihood ratios to testable facts or “correspondences” between the Book of Mormon and Dr. Coe’s book. The facts, taken from Dr. Coe’s book, are compared with statements of fact in the Book of Mormon. Recall that the hypothesis we are testing is that the Book of Mormon is false, and we assume a billion to one prior odds in favor of the hypothesis that the Book of Mormon is indeed false.

Pieces of evidence in favor of the hypothesis, that is, that the Book of Mormon is false, are weighted by their “likelihood ratio,” which is a positive value greater than one (either 50, 10 or 2). This likelihood ratio is multiplied by the skeptical prior of a billion to one to increase the weight of the evidence against the Book of Mormon.

Points of evidence in favor of the essentially factual nature of the Book of Mormon (called the *converse hypothesis*) are weighted by their likelihood ratio, a positive decimal fraction (0.5, 0.1 or 0.02). These fractions are multiplied by the skeptical prior of a billion to one to decrease the weight of the evidence against the Book of Mormon, in other words, to provide evidence for the factual nature of the Book of Mormon.

To illustrate, here are three examples, one for each likelihood ratio, in favor of the converse hypothesis; that is, in favor of the essentially factual nature of the Book of Mormon.

Specific correspondences: 0.5 (Bayesian supportive evidence for the converse hypothesis). The author of the Book of Mormon might have learned this fact by study or experience, but it is not obvious: for example, the fact that people eat food. We aren’t impressed by the fact that someone ate dinner, but if we know they ate a specific kind of food on a specific day as a religious observance, that has value as evidence. One example is the practice of repopulating old or abandoned cities described in Dr. Coe’s book and also in the Book of Mormon. Such evidence acts against the hypothesis that the Book of Mormon is fiction, but it is not particularly strong evidence. Instead, such evidence is considered to be merely “supportive.”¹⁸

Specific and detailed correspondences: 0.10 (Bayesian positive evidence for the converse hypothesis). Facts assigned a likelihood of 0.1 are details in the Book of Mormon that agree with details in *The Maya*. The author of the Book of Mormon might have been able to reason out such details, given time, study, or expert knowledge, but we think it would have been very difficult for the writer to have guessed correctly. Thus these correspondences are quite specific and also provide some important details.

18. Robert E. Kass and Adrian E. Raftery, “Bayes Factors,” *Journal of the American Statistical Association* 90, no. 430 (1995): 777, doi:10.2307/2291091.

One example is the existence of highlands and lowlands within the relevant geography. Dr. Coe's book repeatedly emphasizes the highland and lowland populations of Native American peoples in Mesoamerica. The Book of Mormon also repeatedly uses the words "go up" and "go down" when traveling. From its very beginning, the Book of Mormon likewise employs going "up" and going "down" when traveling to and from Jerusalem. Jerusalem sits at a higher elevation than most of the surrounding geography. Thus we assume that the phrases "go up" or "go down" mean to ascend or descend in elevation while traveling. Such evidence is considered to be Bayesian "positive."¹⁹

Specific, detailed and unusual correspondences: 0.02 (Bayesian strong evidence for the converse hypothesis). We believe that facts with a 2% likelihood (one in 50 chance) are essentially impossible to guess correctly, given any amount of knowledge or study reasonably available to the writer of the Book of Mormon. But in order to rigorously test the Book of Mormon's claims as a fact-based record, we assume that the writer had a one in 50 chance of guessing these correspondences correctly. A one in 50 or 2% chance (0.02) is the maximum weight we will allow for evidence supporting the Book of Mormon's claims to being fact-based, even if we think the odds are more like one in a million or less. Such evidence is considered to be Bayesian "strong" evidence.²⁰

One example of Bayesian "strong" evidence is the remarkably detailed description of a volcanic eruption and associated earthquakes given in 3 Nephi 8. Mesoamerica is earthquake and volcano country, but upstate New York, where the Book of Mormon came forth, is not. If the Book of Mormon is fictional, how could the writer of the Book of Mormon correctly describe a volcanic eruption and earthquakes from the viewpoint of the person experiencing the event? We rate the evidentiary value of that correspondence as 0.02. We assume a piece of evidence is "unusual" if it gives facts that very probably were not known to the writer, someone living in upstate New York in the early 19th century, when virtually nothing of ancient Mesoamerica was known.

We can also conceive of correspondences that are specific and unusual but not given in sufficient detail to assign them a weight of 0.02. One such specific and unusual correspondence is the existence of an arcane sacred or prestige language as mentioned in Coe's book and in the Book of Mormon (1 Nephi 3:19 and Mosiah 1:2). However, insufficient details about this language are given to regard the correspondence as

19. Ibid.

20. Ibid.

specific, detailed, and unusual, for a weight of 0.02. Instead it is assigned a weight of 0.10, for specific and unusual only.

The uncertainty one feels toward any particular correspondence can also be reflected in the assigned likelihood ratio. For example, if a correspondence seems specific and somewhat detailed but is believed to lack enough detail to warrant the higher evidentiary weight, it can be assigned a likelihood ratio of 0.5 rather than 0.1.

We assume the writer's religious knowledge came from the Bible; his cultural/social knowledge came from his (and his family's) own cultural/social experiences as relatively poor, less-educated working farmers typical of their time; his political knowledge from American and British political institutions existing in the early 19th century, and his knowledge of Native Americans from his own knowledge of Native Americans of his time and place (northeastern North America). Facts that could not have been obtained from those sources in the early 19th century could only have been guesses by the writer of the "fictional" Book of Mormon.

The author's general knowledge of the ancient Mayan Indians and their area was exactly zero — which was the case for everyone in the world in 1830. As Dr. Coe says in one of his podcast interviews, "until [Stephens and Catherwood] went to the Maya area no one knew anything about it."²¹ Stephens and Catherwood visited the Mayan area twice between 1839 and 1842. Their book, *Incidents of Travel in Central America, Chiapas and Yucatan*, was published in 1841, eleven years after the Book of Mormon was published.²²

Therefore, it was impossible for the work of Stephens and Catherwood to have directly influenced the Book of Mormon. In contrast, Reverend Ethan Smith's book, *View of the Hebrews*, has some very limited information on Indians in Mexico, primarily the Aztecs and Toltecs, and might have influenced the writer of the Book of Mormon. We account for this fact in our analysis as described in Appendix A.

If the Book of Mormon is of early 19th century origin, then, according to Dr. Coe, the author of that "fictional" work could not have known anything about the Mayan area. Thus, if we are rational and honest, we will not attribute to any hypothetical 19th century author of the Book of Mormon the same degree of knowledge and sophistication

21. Dehlin, "Dr. Michael Coe — An Outsider's View of Book of Mormon Archaeology," episode 905, 31:52.

22. Wikipedia, s.v. "Frederick Catherwood," last edited October 9, 2018, 04:47, https://en.wikipedia.org/wiki/Frederick_Catherwood.

about cultural, social, physical, geographical, and other characteristics of the ancient Maya that only a few comparatively well-educated people have now in the early 21st century.

The purpose of this article is to rigorously test facts given in the Book of Mormon versus facts given by Dr. Coe in *The Maya* and in other venues. It is fortunate that our analysis will be naturally conservative, underweighting the evidence in favor of the Book of Mormon. Even if we are trying hard to be rational and honest, we have a natural tendency to overestimate Joseph Smith's likely knowledge of ancient Mesoamerica (or that possessed by anyone else of his time). Present-day educated individuals are likely to know much more about ancient Mesoamerica than did the (supposed) 19th century author(s) of the Book of Mormon.

To illustrate, we examine the three separate statements of fact in the Book of Mormon given above. The Book of Mormon claims to be a real historical record. Either these statements are just guesses, or indeed the Book of Mormon is an accurate historical book. There are no other choices open to us. Each of these statements supports the Book of Mormon's claim to be a fact-based record. What is the overall likelihood of getting all three of these guesses right: (1) the practice of repopulating old or abandoned cities (0.5), (2) an accurate description of Mesoamerican geography as composed primarily of highlands and lowlands (0.1), and (3) an accurate, quite detailed description of a simultaneous volcano/earthquake (0.02)? The product of these three likelihoods is $0.5 \times 0.1 \times 0.02 = 0.001$ or *likelihood of one in a thousand*.

But that is not nearly enough. Our "skeptical prior" is a billion to one that the Book of Mormon is a work of fiction. And a billion to one (1,000,000,000) times one in a thousand (0.001) is still a million to one. So even after considering this evidence we are still quite confident that the Book of Mormon is a work of fiction, but we are less confident than we were prior to examining the evidence, due to our rational, intellectually honest assessment of these new pieces of evidence.

However, many more facts are mentioned in Dr. Coe's book *The Maya* that we can test against corresponding statements of fact in the Book of Mormon. Specifically, we have found 131 such correspondences. We divide these correspondences into six separate categories:

- Political (33 correspondences)
- Cultural/social (31 correspondences)
- Religion (19 correspondences)
- Military/warfare (12 correspondences)
- Physical/geographical (13 correspondences)

- Technological/miscellaneous (23 correspondences)

We have assigned one of three different likelihood ratios to each correspondence. The specific Bayes factor or likelihood assigned to each correspondence is based on our assessment as to whether the correspondence is (1) specific or “supportive” according to Bayesian nomenclature (0.5); (2) specific and detailed, or Bayesian “positive” (0.10); or (3) specific, detailed, and unusual, or Bayesian “strong” (0.02), as described above and given in the literature.²³

Appendix A summarizes the reasons why we have assigned a specific likelihood ratio (0.5, 0.1 and 0.02) to each of the 131 supportive correspondences between the Book of Mormon and *The Maya*. For each correspondence, we first state Dr. Coe’s standard of fact as given in *The Maya*. Since the Book of Mormon is available to everyone to study and evaluate without cost,²⁴ but Dr. Coe’s book is not, we provide direct quotations or summaries for each of the correspondences from Dr. Coe’s book. Following the quotations from Dr. Coe’s book, the specific book(s), chapter(s) and verse(s) from the Book of Mormon where the correspondence appears are cited. Finally, we provide a few sentences up to a few paragraphs that justify our choice of the assigned likelihood ratio.

Since the truth (or falsity) of the Book of Mormon is a supremely important question, we trust readers will exert themselves and make their own comparisons between Coe’s book and the Book of Mormon. We hope they will honestly weigh each piece of evidence for themselves and decide what likelihood ratio, if any, to assign to that piece of evidence.

This is essentially what is demanded of jurors in trial situations. Jurors are to weigh honestly and carefully all the evidence, without prejudging the outcome, and then render a true verdict according to the evidence. But jurors (and honest readers of the Book of Mormon) must not prejudge the case before hearing all the evidence, must not take their duties lightly, and must not arbitrarily reject evidence for or against either side.

Results of the Analysis

We have compiled six different categories of evidence in Appendix A, as noted above. For example, the sixth category includes technological and miscellaneous correspondences. We found 23 specific technological and miscellaneous correspondences between the Book of Mormon and *The Maya*. Of these, three have a likelihood of 0.5, eight have a likelihood

23. Kass & Raftery, “Bayes Factors,” 777.

24. “The Book of Mormon,” The Church of Jesus Christ of Latter-Day Saints, accessed September 28, 2018, <https://www.lds.org/scriptures/bofm?lang=eng>.

of 0.1, and twelve have a likelihood of 0.02 ($3 + 8 + 12 = 23$). Thus the overall likelihood of these 23 positive correspondences, taken as a whole for statistical analysis, is $(0.5)^3 \times (0.1)^8 \times (0.02)^{12} = 5.12 \times 10^{-30}$.

The overall likelihood of the positive correspondences in each of the six categories has been computed in this way. They are, respectively: 4.99×10^{-33} , 3.21×10^{-35} , 1.28×10^{-24} , 2.0×10^{-13} , 1.28×10^{-18} and 5.12×10^{-30} . We then compute the overall likelihood of all six categories taken together by multiplying these six numerical values together. The result is 2.69×10^{-151} .

We can confirm this calculation by noting that of these 131 correspondences, 23 have a likelihood of 0.5; 57 have a likelihood of 0.1; and 51 have a likelihood of 0.02. Thus the overall likelihood can also be computed and confirmed as $0.5^{23} \times 0.1^{57} \times 0.02^{51} = 2.69 \times 10^{-151}$. *This product represents the likelihood (probability) that the positive correspondences between the Book of Mormon and The Maya under the six categories of comparison are the result of a very, very long series of consistent lucky guesses by the author of the Book of Mormon.*

Recall that according to Bayesian methods, our skeptical prior odds were a billion to one against the Book of Mormon being a historical document. Thus we started our analysis by assuming that the statements of fact in the Book of Mormon were just guesses. We must multiply one billion times 2.69×10^{-151} to determine the degree to which the evidence provided by the 131 positive correspondences *changes* our opinion. The result of this calculation is 2.69×10^{-142} .

We have not yet considered the negative correspondences and their impact on our opinions, but will weigh these negative correspondences after briefly discussing sensitivity analysis.

Sensitivity Analysis

In statistics it is good scientific practice to do a “sensitivity analysis” by which the effects of changed assumptions or changed data on the results are determined. For example, if we assign the weakest likelihood ratio (Bayesian “supportive” or 0.5) to each of the 131 correspondences, the overall strength of the evidence is then 0.5^{131} equals 3.7×10^{-40} . We then multiply this number by one billion (10^9) and find that the likelihood that the Book of Mormon is a work of fiction is less than one in a thousand billion, billion, billion, billion.

As another example of sensitivity analysis, we can choose to admit only half the 131 correspondences to evidence at the same evidentiary weights as given in Appendix A. If we do so, the cumulative likelihood

of these correspondences is still about 1.0×10^{-65} . When multiplied by the skeptical prior of one billion, we find the likelihood that the Book of Mormon is the result of guesswork is still less than about one in a hundred billion, billion, billion, billion, billion, billion.

A third sensitivity analysis is as follows. Of the 131 total correspondences, 23 have a likelihood of 0.5; 57 have a likelihood of 0.1; and 51 have a likelihood of 0.02. Thus the ratio of the correspondences with respect to their relative strengths is roughly 1:2:2 (specific: specific and detailed: specific and detailed and unusual).

Thus the question is: "At this ratio of 1:2:2, how many total correspondences are required to shift our skeptical prior of a billion to one against the Book of Mormon to a billion to one in favor of the Book of Mormon?" The answer is about 17 total correspondences — only 17 out of 131 correspondences (13% or about one out of every eight) must be accepted at their assigned evidentiary strengths to shift the strong skeptical prior to a strong positive posterior.

Under all three sensitivity analyses, our strong skeptical prior hypothesis of a billion to one against the fact-based nature of the Book of Mormon still gives way to a much, much stronger posterior hypothesis in favor of the Book of Mormon. We conclude that the Book of Mormon is historical, and is based in fact, with odds of many, many billions to one that this statement is true.

Data in Support of the Hypothesis that the Book of Mormon is a Work of Fiction

We started with a very strong skeptical prior hypothesis of a billion to one against the historicity of the Book of Mormon. However, to this point, we have considered only data in support of the historicity of the Book of Mormon, that is, in support of the converse hypothesis. What about data in support of the opposite hypothesis, that is, that the Book of Mormon is fictional? As before, the evidence considered here will be statements in *The Maya* which disagree with corresponding statements in The Book of Mormon.

Again, it is only rational and honest to compare statements of fact which are dealt with by *both books*. On statements of fact where one or the other books is silent, we cannot assume either agreement or disagreement. There is no rational scientific basis for doing so because there is no evidence to support our choices.

Surprisingly few pieces of evidence cited in *The Maya* support the hypothesis that the Book of Mormon is a work of fiction. We were able

to find six such points of disagreement between *The Maya* and the Book of Mormon, namely the existence of (1) horses, (2) elephants, (3) iron, (4) steel, (5) copper and (6) refined gold and silver. (We combine refined gold and refined silver instead of considering them individually because gold and silver are usually found together, and thus to refine gold is also to refine silver.)

These points of disagreement are summarized in Appendix B. As with Appendix A, we give citations and page numbers from *The Maya* to support these negative correspondences and citations from the Book of Mormon where the points of disagreement are found. Finally, we provide a brief analysis of each correspondence. We evaluate these six points as having a cumulative strength as evidence of 1.25×10^8 .

However, given our own inherent bias on the topic, we choose to overcompensate and deliberately err on the side of skepticism by weighting all six points as strong evidence, with a Bayes factor of 50 for each point of disagreement. We do not think each of these points is actually Bayesian “strong” evidence, but we allow this sensitivity test to severely examine the Book of Mormon’s claims.

Weighting each piece as strong evidence, the strength of the total body of evidence from *The Maya* supporting the skeptical hypothesis is thus $50^6 = 1.56 \times 10^{10}$. Therefore, the total body of evidence taken from *The Maya*, including the skeptical prior of a billion to one, is $2.69 \times 10^{-142} \times 1.56 \times 10^{10} = 4.2 \times 10^{-132}$.

If one is rational and carefully weighs the evidence, the authors believe that the initial strongly skeptical prior hypothesis of a billion to one that the Book of Mormon is a work of fiction must change. It must give way to an enormously stronger posterior hypothesis, namely that the Book of Mormon is indeed fact-based: it has very strong political, cultural, social, military, physical, geographical, technological, and religious roots in ancient Mesoamerica as that world of ancient Mesoamerica is described by Dr. Coe in *The Maya*.

The Anti-Book of Mormon Hat Trick: Expanding the Body of Evidence

Now, suppose we are not content with this reversal of our skeptical prior and wish to try to maintain it unfairly while still appearing to be rational. One way to do so is to expand our body of evidence unfairly by including not only scholarly works like *The Maya* but also including purely skeptical, “cherry-picked” evidence gathered from nonscholarly sources.

the universe, is still one hundred thousand, billion, billion times greater than the odds that the Book of Mormon is a work of fiction.

Two Control Studies

As controls, we also analyzed two other books concerned with ancient American Indians written about the same time as the Book of Mormon. One book is *View of the Hebrews* by Reverend Ethan Smith, published in 1823.²⁵ The other book is Reverend Solomon Spalding's unpublished work titled *Manuscript Found*.²⁶ We compared both books with *The Maya* using Bayesian statistics, again with a strongly skeptical prior assumption of a billion to one that these books have little to do with ancient Indian cultures. These comparisons are summarized in Appendix C for *Manuscript Found* and Appendix D for *View of the Hebrews*.

In the case of *Manuscript Found*, our posterior conclusion is much stronger than our prior assumption that this book has little to do with ancient Indian cultures. In other words, weighing the additional evidence, we are even more convinced than we were before the analysis that this book has very little in common with the ancient Indian cultures as described in Dr. Coe's book. Since *Manuscript Found* is written as if it were a true account, we conclude that it is not true; it is fiction. (In fact, *Manuscript Found* is excruciatingly bad fiction.)

In the case of *View of the Hebrews*, weighing both the positive and negative points of evidence (correspondences) between this book and Coe's book *The Maya*, we find that the positive evidences are essentially counterbalanced by the negative evidences. Thus the posterior conclusion is the same as skeptical prior assumption. *View of the Hebrews* has little in common with the ancient Mesoamerican Indian cultures described in *The Maya*. This book is not written as fiction, but the universe of facts it cites do not agree well with the universe of facts cited in *The Maya*. This level of factual agreement could likely have been obtained by "guessing."

View of the Hebrews was published in 1823, well before the Book of Mormon. Thus an important outcome of analyzing *View of the Hebrews* was to document what Joseph Smith might have known about

25. Ethan Smith, *View of the Hebrews: Exhibiting the Destruction of Jerusalem; the Certain Restoration of Judah and Israel; and An Address of the Prophet Isaiah Relative to Their Restoration* (Poultney, VT: Smith & Shute, 1823), <https://archive.org/details/viewhebrewsexhi00smitgoog>.

26. Solomon Spalding, *Manuscript Found* (unpublished manuscript, 1812), https://archive.org/stream/themanuscriptsto00spauoft/themanuscriptsto00spauoft_djvu.txt.

the ancient Mesoamerican Indians. To make our analysis as rigorous as possible, we did not allow any fact claim in *View of the Hebrews* that corresponds to a specific fact stated in both *The Maya* and the Book of Mormon to be classified as “unusual” in our comparison of *The Maya* and the Book of Mormon (see Appendix D). We did this because Joseph Smith might have known about that fact from reading *View of the Hebrews*. Therefore, that particular fact could at most be specific and detailed (Bayesian positive) but not “unusual” (Bayesian strong).

Since *View of the Hebrews* also contains many fact claims that run contrary to facts in *The Maya*, this begs a question: “Why did Joseph Smith not include those erroneous fact claims from *View of the Hebrews* in his ‘guesses’ that supposedly form the basis for the Book of Mormon?”

Therefore, those individuals who believe Joseph Smith was strongly influenced by either *View of the Hebrews* or, more improbably yet, by *Manuscript Found*, have some serious explaining to do. They must explain why Joseph Smith took only the correct fact claims from *View of the Hebrews* and why he avoided including incorrect fact claims from *Manuscript Found* (see, for example, negative correspondences 4, 6, and 9 in Appendix C) or also incorrect fact claims from *View of the Hebrews* (see, for example, negative correspondences 1, 2, and 4 in Appendix D).

Dr. Coe seems to share the opinion that Joseph Smith was influenced by then-popular ideas such as those found in *View of the Hebrews* and *Manuscript Found*. He views the Book of Mormon as “an amalgamation of the rumors and myths, and understandings about Native Americans” existing at the time.²⁷ Dr. Coe states that the Book of Mormon was “in the air” when it was published.

Well, if so, how did Joseph Smith avoid breathing in so much bad air? Wrong guesses about ancient Indian cultures abound in *Manuscript Found* and *View of the Hebrews*. How did Joseph Smith manage to avoid making those wrong guesses? And how did Joseph Smith manage to “guess” so much that was overwhelmingly correct?

To name just a few of his correct “guesses,” how did Joseph Smith guess correctly that separate historical records were kept of the reigns of the kings, that large-scale public works were built, that the fundamental unit of political organization was the independent city-state, that the word “seating” meant accession to political power, that an ancient Mesoamerican culture declined steeply and then disappeared a few

27. Dehlin, “Dr. Michael Coe — An Outsider’s View of Book of Mormon Archaeology,” episode 905, 37:00.

hundred years BC, that settled marketplaces existed, that large migrations took place toward the north, and so on for 124 more such examples?

Surely, Joseph Smith must be the greatest guesser of all time, succeeding with odds of many billions of billions of billions to one against him.

We prefer a more rational, more intellectually honest conclusion: The Book of Mormon is a real historical record. It is authentic.

Summary

Dr. J. B. S. Haldane, the great British biologist, once said that prejudice is an opinion arrived at without considering the evidence. Book of Mormon scholarly critics ignore a very large body of evidence. They fail to read the Book of Mormon carefully and objectively. In other words, they approach the Book of Mormon with deep preexisting prejudices.

Unfortunately, we know of no exceptions to this rule, including Dr. Coe, who read the Book of Mormon just once, about 45 years ago.²⁸ He missed a few things during that one and only reading.

While Dr. Coe is undoubtedly a great Mayanist, his knowledge of the Book of Mormon is appallingly deficient. He has not paid the price that any scholar must pay in order to offer a credible opinion on a given topic. He doesn't know his material. He doesn't know the Book of Mormon more than superficially.

There are at least 131 correspondences between Dr. Coe's book and the Book of Mormon. In this article, we have cited 151 separate pages of *The Maya*. Thus, well over half of the pages of Coe's book contain facts that correspond to facts referred to in the Book of Mormon. Those who carefully read both Dr. Coe's book and the Book of Mormon can scarcely avoid noticing the many correspondences between the two books.

Thus Dr. Coe's opinion "The picture of this hemisphere between 2,000 BC and AD 421 presented in the [B]ook [of Mormon] has little to do with early Indian cultures" is simply not supported by the evidence provided in his own book. Using Dr. Coe's own book, we find that early Mesoamerica has a very great deal indeed to do with the Book of Mormon. The cumulative weight of these correspondences, analyzed using Bayesian statistics, provides overwhelming support for the historicity of the Book of Mormon as an authentic, factual record set in ancient Mesoamerica.

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28. Coe, "Mormons and Archaeology: An Outside View," 40-48.

Bioproducts and Biorefining. He is a Fellow of the American Institute of Chemical Engineers, a Fellow of the American Institute of Medical and Biological Engineers, and also a Fellow of the American Academy of Inventors. Bruce has published more than 300 archival journal papers, has been cited almost 32,000 times, and has received 63 patents. Professionally, he is interested in understanding how long-term human prosperity and a healthy environment can be based on sustainable agroenergy systems. Bruce joined The Church of Jesus Christ of Latter-day Saints at age 16 as a result of his first encounter with the Book of Mormon, that “book of books.” He has read the Book of Mormon hundreds of times since then and continues to rejoice in the truths it teaches and the many powerful ways by which these truths are taught. He and his wife, the former Regina Ruesch, are the parents of five children and 20 grandchildren. Gina and Bruce are now serving as missionaries of the Church in the Utah Salt Lake City Headquarters Mission. They are delighted to have their oldest child, Dr. Brian M. Dale, as Bruce’s coauthor on this article.

Brian Dale, PhD MBA, is a biomedical engineer working for Siemens Healthineers, where he teaches programming, physics, and imaging courses for MRI (Magnetic Resonance Imaging). Brian has published more than 100 scientific papers, book chapters, and conference abstracts, and he has 10 patents. In Brian’s research activities he is frequently involved in using Bayesian methods and other standard statistical methods to analyze medical imaging data for accuracy and image quality. With his wife he raises five children and a variety of chickens and ducks on their small farm.

Appendix A

Positive Correspondences between the Book of Mormon and *The Maya*

A few comments must be made on the timing of events with regard to the evidence summarized below. Most of the events in the Book of Mormon took place from roughly 600 BC through AD 400, that is, mostly the Late Preclassic period through the first century or two of the Early Classic. The Book of Ether takes place very much earlier.

Dr. Coe’s book strongly focuses on the Classic (Early, Late and Terminal Classic), so it is fair to ask if the cultural, social, political, etc., information summarized in *The Maya* is relevant to the Book of Mormon. In other words, is it even valid, because of the differing time periods, to make many of the comparisons we have made?

We believe the answer is yes, for three important reasons:

1. This extended quote from p. 61 of *The Maya* is critically important here: “*The more we know about that period [the Late Preclassic], which lasted from about 400 or 300 BC to AD 250, the more complex and developed it seems. From the point of view of social and cultural evolution, the Late Preclassic really is a kind of ‘proto-Classic’ in which all of the traits usually ascribed to the Classic Maya are present, with the exception of vaulted stone architecture and a high elaboration of calendar and script on stone monuments.*” Thus the Late Preclassic period, which corresponds to most of the Book of Mormon events, is certainly relevant to the Classic in terms of “social and cultural” features.
2. Dr. Coe, in his *Dialogue* article and later in the podcast interviews, claims that based on his knowledge, the Book of Mormon is false. If Dr. Coe can make such an assertion based on his knowledge, then it is certainly reasonable and intellectually rigorous to use the knowledge summarized in Dr. Coe’s book to examine the opposing hypothesis, namely that the Book of Mormon is true.
3. Correlations/congruencies/similarities that occur after the Book of Mormon period are certainly not invalid for that reason alone — far from it. We use an alphabet developed by the Phoenicians about 3,000 years ago. The major world religions that influence our culture so much today were founded millennia ago. Our code of laws comes from English common law, about a thousand years old, which was in turn based on still earlier Roman civil law and Roman Catholic canon law. Our numbering system, including the all-important zero, uses Arabic numerals, which were actually derived from Hindu mathematicians working about 1,500 years ago. Our division of the day into hours and minutes comes to us from ancient Babylon and Egypt. The foundations of the modern scientific method go back to the work of the Greek scientist Thales of Miletus, who was active about 2,500 years ago. Even our modern three-course meal structure goes back to the *Muqaddimah* of Ibn Khaldun, written 600 years ago.

Thus, older cultures and societies definitely leave important marks on subsequent societies. It is perfectly consistent with history that the

Book of Mormon peoples in Preclassic times might have left significant marks on the Maya Classic period, which is the primary focus of Dr. Coe's book.

1. Political Correspondences

1.1 Fundamental level of political organization is the independent city-state

Coe's standard: "Sylvanus Morley had thought that there was once a single great political entity, which he called the 'Old Empire,' but once the full significance of Emblem Glyphs had been recognized, it was clear that there had never been any such thing. In its stead, Mayanists proposed a more Balkanized model, in which each 'city state' was essentially independent of all the others; the political power of even large entities like Tikal would have been confined to a relatively small area, the distance from the capital to the polity's borders seldom exceeding a day's march" (p. 274).

Book of Mormon correspondence: Throughout the Book of Mormon itself there is never a reference to "Nephite nation" or to a "Lamanite nation." Interestingly, the word *nation* is used in reference to the Jaredites (Ether 1:43), a very different people culturally than the Lehites. The Book of Mormon uses this phrase: "nations, kindreds, tongues and people." The Nephites and Lamanites were clearly kindreds. In contrast, the word *nation* is used frequently in terms of the "nations of the Gentiles." The noncanonical *Guide to the Scriptures* has eight references to "Nephite nation," showing how deeply engrained this idea of nationhood is in modern readers. But the Book of Mormon never puts those two words together for Nephite/Lamanite societies. The nation-state is not a political structure found anywhere in the Book of Mormon. Instead, the Book of Mormon peoples were organized politically in city-states. Often one city-state would dominate a group of other city-states. This dominance is the subject of the next correspondence

Analysis of correspondence: The correspondence is specific and detailed. There is not a single reference in the text of the Book of Mormon to "Nephite nation" or "Lamanite nation." It is also unusual. Joseph Smith was growing up in the new nation of America, with a great deal of pride and self-identity as an independent nation. How did he avoid identifying the Lamanite or Nephite peoples as "nations"? But he did avoid it. What a lucky "guess" — over and over again during the course of the Book of Mormon history. Likelihood = 0.02.

1.2 "Capital" or leading city-state dominates a cluster of other communities

Coe's standard: "Clusters of villages and communities were organized under a single polity, dominated by a large 'capital' village, which could have contained more than 1,000 people. (p. 51)." "Quirigua lies only 30 miles

(48 km) north of Copan; ... that seems, on the basis of its inscriptions, to have periodically been one of the latter's suzerainties" (p. 137). "Bonampak, politically important during the Early Classic, but by the Late Classic an otherwise insignificant center clearly under the cultural and political thumb of Yaxchilan" (p. 149). "These are Tamarindito, Arroyo de Piedras, Punta de Chimino, Aguateca, and Dos Pilas; the latter city seems to have dominated the rest" (p. 150). "We now know that not all Maya polities were equal: the kings of some lesser states were said to be 'possessed' by the rulers of more powerful ones (the phrase *y-ajaw*, 'his king,' specifies this relationship" (p. 275).

Book of Mormon correspondence: See Omni 1:12; Alma 61:8; Helaman 1:27. Zarahemla is clearly the Nephite capital city in the Book of Mormon, with 140 mentions in the book. It is to Zarahemla that the other cities of the Nephites look to for leadership and supplies in their wars against the Lamanites. When the Lamanite chieftain Coriantumr invades the Nephite confederation, he makes straight for Zarahemla, "the capital city," in the heart of the Nephite lands, and bypasses all the lesser cities. Later the city/land of Bountiful seems to become the Nephite capital city-state.

Analysis of correspondence: This political model was clearly part of Book of Mormon political arrangements, so it is specific and detailed in both books. It is also unusual. There is no corresponding political arrangement in Joseph Smith's time which he might have used as a model. Likelihood = 0.02.

1.3 Some subordinate city-states shift their allegiance to a different "capital" city

Coe's standard: "Dos Pilas; the latter city ... [began] putting together a large-scale state as early as the seventh century AD, when a noble lineage arrived from Tikal and established a royal dynasty. The family was clearly adroit in its political maneuvers, switching from an allegiance to their cousins at Tikal to one with Calakmul, its arch-enemy" (p. 150).

Book of Mormon correspondence: See Mosiah 23:31 and Alma 43:4-5. The Amalekites and later the Zoramites, both of whom are Nephites by birth but have dissented from the Nephites and built their own cities, go over to the Lamanites as a body.

Analysis of correspondence: The analysis is specific and detailed. In both cases, whole city-states changed their political allegiance to that of a former enemy. This does not seem unusual to a modern reader and probably would not have seemed unusual even to a country boy in the relatively innocent early 19th century. Likelihood = 0.1.

1.4 Complex state institutions

Coe's standard: "In art, in religion, in state complexity, and perhaps even in the calendar and astronomy, Olmec models were transferred to the Maya"

(p. 61). “Civilization ... has certainly been achieved by the time that state institutions ... have appeared” (p. 63). “By Classic times, full royal courts came into view” (p. 93). “closer to the heart of the city itself, where the dwellings of aristocrats and bureaucrats” (p. 126).

Book of Mormon correspondence: See Mosiah 24:1-2; Alma 2:6-7, 14-16; Alma 27:21-22; Alma 30:9; Alma 51:2-7; Alma 60:7, 11, 21, 24. Both the Book of Mormon and *The Maya* clearly show societies that have large, complex state institutions. For example, the Nephites had (1) some form of elections, (2) armies supported by the state, (3) chief judges and lower judges, and (4) kings (at least part of the time). The Lamanites appear to have had kings at all times. Dr. Coe (p. 63) notes that state institutions were developed among the Maya by the Late Preclassic, consistent with Book of Mormon timing for the references provided.

Analysis of correspondence: Both the British and American civil governments had large, complex state institutions, but the Native American societies certainly did not. This comparison is specific, has quite a bit of detail, and probably would have been unusual to Joseph Smith. Likelihood = 0.02.

1.5 Many cities exist

Coe's standard: To name just a few of the cities mentioned in *The Maya* we have Uxmal, Chichen Itza, Coba, Tulum, Acanceh, Ek' Balam, Mayapan, Piedras Negras, Ceibal, Palenque, Naranjo, El Mirador, Bonampak, Uaxactun, Kaminaljuyu, Takalik Abaj, Tikal (p. 9). “the great Usumacinta ... draining the northern highlands, ... twisting to the northwest past many a ruined Maya city” (p. 16-17). “More advanced cultural traits, ... the construction of cities” (p. 26).

Book of Mormon correspondence: See Alma 51:20; Alma 59:5; 3 Nephi 9:3-10. Many named cities are mentioned in the Book of Mormon.

Analysis of correspondence: By 1830 America had many cities, but there were no cities on the frontier where Joseph Smith translated and published the Book of Mormon. The Native Americans with whom Joseph was familiar did not build cities, although he might possibly have learned about some Native American cities by reading *View of the Hebrews*, so we do not count it as unusual. Nonetheless, the correspondence is specific and quite detailed. Likelihood = 0.1.

1.6 City of Laman (Lamanai) “occupied from earliest times”

Coe's standard: “Far up the New River ... is the important site of Lamanai, ... occupied from earliest times right into the post-Conquest period” (p. 85).

Book of Mormon correspondence: See 3 Nephi 9:10. The strong tendency is for consonants to be preserved in pronouncing words and names. For example, Beirut (Lebanon) is one of the oldest cities in the world, settled 5,000 years ago. The name derives from Canaanite-Phoenician *be'erot* and

has been known as “Biruta,” “Berytus” and now “Beirut,” while always retaining those three consonants “BRT” in the correct order, and with no intervening consonants.²⁹

In the case of the city Lamanai (Laman), all three consonants, and only these three consonants, namely LMN, are found in the correct order and are the same consonants as given for the city of Laman mentioned in the Book of Mormon. This seems to be a “bullseye” for the Book of Mormon. How did Joseph Smith correctly “guess” the correct consonants, and only the correct consonants in the correct order for the name of an important city “occupied from earliest times?”

Analysis of correspondence: The correspondence is specific, detailed and statistically unusual. Likelihood = 0.02.

1.7 Parts of the land were very densely settled

Coe’s standard: “A few cities, such as Chunchucmil in Yucatan, are amazingly dense” (p. 124). “At Tikal, within a little over 6 sq. miles ... there are c. 3,000 structures” (p. 126). Recent work not reported in *The Maya* confirms that some Mayan cities were very densely populated.³⁰

Book of Mormon correspondence: See Mormon 1:7.

Analysis of correspondence: The Native Americans with whom Joseph Smith had direct contact did not have cities, let alone cities so densely settled. He may have learned about Native American cities from *View of the Hebrews*, but that book gives no information about how densely settled those cities were. So this correspondence is specific and detailed, but we do not count it as unusual, since Joseph Smith might have gotten the idea from *View of the Hebrews*. Likelihood = 0.1.

1.8 Large-scale public works

Coe’s standard: “Civilization ... has certainly been achieved by the time that state institutions, large-scale public works ... have appeared” (p. 63). Dr. Coe notes that city walls (certainly a public work) were built “when, in places, local conditions became hostile” (pp. 126, 194, 216).

Book of Mormon correspondence: See Mosiah 7:10; Mosiah 11:8-13; Alma 14:27-28; Alma 48:8; Helaman 1:22; 3 Nephi 6:7-8; Ether 10:5-6. The Book of Mormon speaks in some detail about the large-scale public works that its societies, particularly its more decadent societies, achieved.

29. Wikipedia, s.v. “Beirut,” last modified November 10, 2018, 02:58, <https://en.wikipedia.org/wiki/Beirut>.

30. Jacey Fortin, “Lasers Reveal a Maya Civilization So Dense It Blew Experts’ Minds,” *The New York Times*, February 3, 2018, <https://www.nytimes.com/2018/02/03/world/americas/mayan-city-discovery-laser.html>.

Analysis of correspondence: This correspondence is both specific and detailed. It would also seem unusual. The Native Americans of Joseph Smith's time and place did not build public works or temples. Why would Joseph Smith have written a book that clearly claimed that "the Indians" did so? However, since *View of the Hebrews* references temples and walled towns (not in any detail), and Joseph Smith might have gotten the idea from that book, we will only count this correspondence as specific and detailed. Likelihood = 0.1.

1.9 Some rulers live in luxury

Coe's standard: "The excavation of two tombs from this period has thrown much light on the luxury to which these rulers were accustomed" (p. 74).

Book of Mormon correspondence: Mosiah 11:3-15.

Analysis of correspondence: Joseph probably knew that the British royal court lived in luxury, but the chiefs of the Indian tribes did not. Why would Joseph have assumed that the ancestors of the Indians had kings who lived in luxury? The Book of Mormon contrasts the reign of King Benjamin, who deliberately did not live in luxury, with decadent rulers who did. So Joseph was correct that some decadent rulers did live in luxury, but there are few details, and this is not particularly unusual. Likelihood = 0.5.

1.10 Elaborate thrones

Coe's standard: "Its superstructure's chambers contain a stone throne in the form of a snarling jaguar, painted red, with eyes and spots of jade and fangs of shell; atop the throne rested a Toltec circular back-shield in turquoise mosaic" (p. 206).

Book of Mormon correspondence: Mosiah 11:9; Ether 10:6.

Analysis of correspondence: Again, Joseph might have known about the elaborate throne of the British royal family, so it was perhaps not unusual, but what Native Americans was Joseph familiar with that had thrones, let alone elaborate thrones? How did he "guess" this one correctly? To be conservative, however, we will classify this as a specific and detailed correspondence, but perhaps not an unusual one. Likelihood = 0.1.

1.11 Royalty exists, with attendant palaces, courts and nobles

Coe's standard: "We now know a great deal about ... Maya societies as the seats of royal courts" (p. 7). "By Classic times, full royal courts came into view" (p. 93). See also pp. 7, 93, 95, 126, and 209.

Book of Mormon correspondence: See Mosiah 24:1-2; Alma 22:2; Alma 51:7-8, 21.

Analysis of correspondence: Both the Book of Mormon and *The Maya* refer repeatedly to these institutions of royalty. So the correspondence is both specific and detailed. However, it may be a stretch to call it unusual. While there were no Indian kings, Joseph certainly knew about British royalty, and

might have been influenced thereby to put it into the Book of Mormon. So to be conservative, we will not classify this one as unusual, although it is specific and detailed. Likelihood = 0.1.

1.12 Royal or elite marriages for political purposes

Coe's standard: "Where such stratagems typically played out was in royal or noble marriages" (p. 97). "An elite class consisting of central Mexican foreigners, and the local nobility with whom they had marriage ties" (p. 103).

Book of Mormon correspondence: See Alma 17:24; Alma 47:35.

Analysis of correspondence: The correspondence is specific but not particularly detailed in the case of the Book of Mormon. Joseph might also have been aware of the political marriages in the royal houses of England and Europe. So we rate this one as specific but not detailed or unusual. Likelihood = 0.5.

1.13 Feasting for political purposes

Coe's standard: "In courts, feasts and gifts helped to bind alliances and keep underlings happy, with effects across the kingdom" (p. 97).

Book of Mormon correspondence: See Alma 18:9; Alma 20:9.

Analysis of correspondence: Neither book offers a lot of distinguishing detail, although the references are specific. The practice seems unusual in Joseph's frontier setting in democratic America. Why would Joseph Smith attribute this practice (unusual for him) to the ancestors of the Indians? This correspondence is therefore ranked as specific and unusual but not detailed. Likelihood = 0.1.

1.14 Gifts to the king for political advantage

Coe's standard: *The Maya* refers clearly to this practice: "In courts, feasts and gifts helped to bind alliances and keep underlings happy, with effects across the kingdom" (p. 97).

Book of Mormon correspondence: See Mosiah 2:12.

Analysis of correspondence: The Book of Mormon reference to political gifts is less specific but strongly suggestive. Again, the practice seems unusual in Joseph's frontier setting in democratic America. Why would Joseph Smith attribute this practice (unusual for him) to the ancestors of the Indians? This correspondence is therefore ranked as only somewhat specific and unusual. The overall likelihood is downgraded from specific and unusual to only specific. Likelihood = 0.5.

1.15 Political factions organize around a member of the elite

Coe's standard: "courts did not operate by individual actions alone. They worked instead through factions pivoting around a high ranking courtier or member of the royal family" (p. 97).

Book of Mormon correspondence: See Helaman 1:2-9.

Analysis of correspondence: In America in the early 19th century, the party system had already been born, and the party often pivoted around a key political figure like Thomas Jefferson or John Adams, so this idea was not unusual to Joseph. However, it is both specific and quite detailed. Likelihood = 0.1.

1.16 Foreigners move in and take over government, often as family dynasties

Coe's standard: “[The Founder of Copan] was another stranger coming in from the west, perhaps from Teotihuacan” (p. 118). “[At Dos Pilas] ... a noble lineage arrived from Tikal and established a royal dynasty” (p. 150). “Uxmal ... was the seat of the Xiu family, but this was a late lineage of Mexican origin that could not possibly have built the site” (p. 180).

Book of Mormon correspondence: See Omni 1:19; Alma 47:35; Helaman 1:16.

Analysis of correspondence: Again, both the Book of Mormon and *The Maya* specifically refer to this practice and in considerable detail. However, Joseph Smith might have been aware of the change in family dynasties in England about a century earlier when the House of Hanover succeeded the House of Stuart as kings of Great Britain, and used this as his model (however unlikely). So the correspondence is specific and detailed, but perhaps not unusual. To be conservative, we assign this a likelihood = 0.1.

1.17 City administrative area with bureaucrats and aristocrats

Coe's standard: At Tikal “closer to the heart of the city itself, [were] the dwellings of aristocrats and bureaucrats” (p. 126), “the palaces were the administrative centers of the city” (p. 128). At Aguateca the archaeologist was able “to identify specialized areas, such as a house which was probably that of the chief scribe of the city” (p. 151). “The House of the Governor was built, probably to serve as his administrative headquarters” (p. 182).

Book of Mormon correspondence: See Alma 60:19, 22; Helaman 9:1-7.

Analysis of correspondence: Both books are quite specific on this point, but the Book of Mormon does not provide a lot of detail. However, Joseph Smith never saw a state or national capital city with its administrative center and nearby houses for officials until well after the the Book of Mormon was published. So this is unusual and specific. Likelihood = 0.1.

1.18 Records kept specifically of the reigns of the kings

Coe's standard: “the ‘stela cult’ — the inscribed glorification of royal lineages and their achievements” (p. 177). “The text is completely historical, recounting the king’s descent from Pakal the Great” (p. 264n169). “The figures that appear in Classic reliefs are not gods and priests, but dynastic autocrats and their spouses, children, and subordinates” (p. 273).

Book of Mormon correspondence: See 1 Nephi 9:4; Jacob 3:13; Jarom 1:14.

Analysis of correspondence: Like *The Maya*, the Book of Mormon is very specific and detailed about separate records being kept of the reigns of the kings. We know of no reason or existing historical model that would have led Joseph Smith to have correctly “guessed” that the doings of the kings were kept separately from the rest of the history of a people. This is a specific, detailed and unusual correspondence. Likelihood = 0.02.

1.19 Native leaders incorporated in power structure after subjugation

Coe’s standard: “Mesoamerican ‘empires’ such as Teotihuacan’s were probably not organized along Roman lines; ... rather, they were ‘hegemonic,’ in the sense that conquered bureaucracies were largely in place” (p. 100). “it seems obvious that many of the native princes were incorporated into the new power structure” (p. 206). “Or perhaps Calakmul found it easier ... to rule through local authorities” (p. 276).

Book of Mormon correspondence: See Mosiah 19:26–27; Mosiah 24:1–2.

Analysis of correspondence: The Book of Mormon and *The Maya* are both specific and detailed about this practice. As Dr. Coe suggests, the only model Joseph Smith might conceivably have heard about for control of subjugated peoples was the Roman one, which was the opposite of the system used among the Maya, and also the opposite of the system used in the Book of Mormon. How did Joseph Smith “guess” that one correctly? Specific, detailed and unusual. Likelihood = 0.02.

1.20 Tribute required of subjects

Coe’s standard: “the ruler took in tax or tribute” (p. 93). “Scenes with food, drink, and tribute” (p. 97). “displays of captives or tribute” (p. 124). “On what did the population live? One answer is tribute” (p. 216).

Book of Mormon correspondence: See Mosiah 7:15, 22; Mosiah 19:15, 22, 26, 28; Mosiah 22:7, 10. Also Alma 23:38–39; Alma 7:22; Alma 24:9.

Analysis of correspondence: Once again, the Book of Mormon and *The Maya* are both specific and detailed about the practice of tribute. However, it is possible that Joseph had heard about this practice either through the Bible or other sources. So we will classify this correspondence as specific and detailed, but not unusual. Likelihood = 0.1.

1.21 Limited number of important patrilineages

Coe’s standard: “There were 24 ‘principal’ lineages in Utatlan” (p. 225). “There were approximately 250 patrilineages in Yucatan at the time of the Conquest, and we know from Landa how important they were” (p. 234).

Book of Mormon correspondence: See Jacob: 1:13; Alma 47:35; 4 Nephi 1:36–38; Mormon 1:8–9.

Analysis of correspondence: Both the Book of Mormon and *The Maya* are very specific and detailed about how important it was to belong to a leading patrilineage. While Joseph Smith might have picked up this idea from reading the Bible (that is, the tribes of Israel) we think this is very unlikely. So we regard this correspondence as specific, detailed and unusual. Likelihood = 0.02.

1.22 King and “king elect”

Coe's standard: “The K'iche' state was headed by a king, a king-elect, and two 'captains'” (p. 226). “royal youths ... or the 'great youth,' ... perhaps the heir-designate” (p. 278).

Book of Mormon correspondence: See Mosiah 1:10; Mosiah 6:3.

Analysis of correspondence: The Book of Mormon also refers to the practice of an heir-designate, so this is a specific correspondence, but it is not particularly detailed. Also, Joseph may have been aware of the practice of having heirs to the throne of Great Britain. To be conservative, we will assign this correspondence a likelihood of 0.5, although it may perhaps merit a greater evidentiary strength.

1.23 There are captains serving kings

Coe's standard: “The K'iche' state was headed by a king, a king-elect and two 'captains'” (p. 226).

Book of Mormon correspondence: See Mosiah 22:3.

Analysis of correspondence: Gideon clearly serves in the capacity of a captain to King Limhi, so the idea is specific or highly suggestive. It also seems unusual. Where would Joseph Smith have come up with this idea? Because of lack of detail, we will assign this correspondence a likelihood of 0.5, although it probably merits a greater strength.

1.24 Political power is exercised by family dynasties

Coe's standard: “[Spearthrower Owl installed his own son] ... as the tenth ruler of Tikal” (p. 109). “King of the great city of Palenque [was] the second son of the renowned Palenque [ruler Pakal the Great]” (p. 161). “There were 24 'principal' lineages in Utatlan, closely identified with the buildings ... in which the lords carried out their affairs” (p. 225). “The ancient Maya realm was ... a class society with political power ... in the hands of an hereditary elite” (p. 234). “the names of the cities themselves or of the dynasties that ruled over them” (p. 271). “dynastic record of all Palenque rulers” (p. 274).

Book of Mormon correspondence: From the beginning of the Book of Mormon, the key political question was which of sons of Lehi had the right to exercise political power over the rest of Lehi's descendants; in other words, who would be the leader of an hereditary elite? See Mosiah 1:9; Mosiah 11:1;

Mosiah 19:16, 26; Mosiah 28:10; Alma 17:6; Alma 20:8; Alma 24:3-4; Alma 50:40; Helaman 1:4-5; Helaman 2:2; Ether 6:24.

Analysis of correspondence: Both books very clearly attest to the central importance of family dynasties. The Lamanite political model was clearly that of hereditary kings. Even among the supposedly more democratic Nephites, following the political reforms of King Mosiah, the office of chief judge (an elected position) often descended from father to son, for example, Alma to his son Alma, Pahoran to his son Pahoran, etc. Obviously, there was a *de facto* hereditary elite even during a time of popular elections.

Likewise, *The Maya* provides many examples of continuing conflict over the question of which lineage would exercise political leadership. So this correspondence is specific and quite detailed. However, it is not unusual. Joseph might have been aware of the various family dynasties in Europe and Great Britain, and their unending conflicts. This correspondence is thus assigned a likelihood of 0.1.

1.25 Kings rule over subordinate provincial or territorial rulers, some of noble blood (subkings)

Coe's standard: "The wily K'uk'ulkan II populated his city with provincial rulers and their families" (p. 216). "At the head of each statelet in Yucatan was the ... the territorial ruler who had inherited his post in the male line" (p. 236). "The kings of some lesser states were said to be 'possessed' by the rulers of more powerful ones" (p. 275).

Book of Mormon correspondence: See Mosiah 24:2-3; Alma 17:21; Alma 20:4, 8.

Analysis of correspondence: This pattern is clearly evident among the Lamanite kings in the Book of Mormon and also as detailed by Dr. Coe in *The Maya*. So the correspondence is specific and quite detailed in both books. We know of no political model in his time on which Joseph Smith might have relied to correctly "guess" this correspondence. The kings of Great Britain did not have provincial rulers of royal blood. Thus this correspondence is specific, detailed and unusual. However, because of its overlap with correspondence 1.2, we assign only a likelihood = 0.5 to this correspondence. This choice is due to the specific additional information that sometimes these provincial rulers were of royal blood.

1.26 "Seating" means accession to political power

Coe's standard: "Epigraphers conclude that pectoral reverse records the 'seating' or accession to power, of the ruler in question" (p. 91). "Important glyphs now known to relate to dynastic affairs include ... inauguration or 'seating' in office" (p. 274).

Book of Mormon correspondence: See Alma 8:12; Helaman 7:4; 3 Nephi 6:19.

Analysis of correspondence: On three separate occasions, the Book of Mormon uses exactly this word *seating* or *seat* to describe the holding of or accession to political power. So the correspondence is specific, detailed and unusual. It seems very unlikely that Joseph Smith would have correctly “guessed” this particular word. Likelihood = 0.02.

1.27 Separation of civil and religious authority

Coe's standard: “a hereditary Chief Priest resided in that city, ... but in no source do we find his authority or that of the priests superseding civil power” (p. 243).

Book of Mormon correspondence: See Alma 4:16-18.

Analysis of correspondence: Under the leadership of Alma the Younger, the role of the head of state and the head of the church were separated, while they had previously been combined. It appears that this was the pattern afterwards among the Nephites, but we do not know what the pattern was among the Lamanites. So this correspondence is specific, but not detailed. Also, this pattern of “separation of church and state” as practiced in America would not have been unusual to Joseph Smith. Likelihood = 0.5.

1.28 Those of noble birth aspire to power

Coe's standard: “Several courtiers were so mighty as to be magnates, perhaps descended from collateral royal lines. They needed to be co-opted and watched, lest their pretensions got out of hand” (p. 93).

Book of Mormon correspondence: See Alma: 51:5, 8.

Analysis of correspondence: The Book of Alma describes a continuing conflict in the Nephite confederation between those who desired a freely chosen government and those who were of “high birth” and sought to be kings. So the correspondence is specific, but not very detailed in either book and probably not unusual to Joseph, since seeking after power seems to be part of human nature. Likelihood = 0.5.

1.29 Royal courts imitate their enemies

Coe's standard: “Courts were often imitative. Through a curious form of standardization, they emulated each other, even those of enemies” (p. 95).

Book of Mormon correspondence: See Alma 47:23.

Analysis of correspondence: The Book of Mormon likewise refers to a specific custom of Lamanite royalty which had been taken from their Nephite enemies. Dr. Coe himself regards this imitative feature as “curious”; so we will agree to that point. It is indeed unusual. However, there is not a lot of detail in either *The Maya* or the Book of Mormon about these imitative practices, so we will classify this correspondence as specific and unusual, but not detailed. Likelihood = 0.1.

1.30 Royal courts function as “great households”

Coe’s standard: “A final observation is that courts functioned as ‘great households’” (p. 97).

Book of Mormon correspondence: See Alma Chap. 19 (the whole chapter)

Analysis of correspondence: Alma Chapter 19 describes a somewhat unusual scene in which many of King Lamoni’s subjects gather to Lamoni’s “house” (not his palace) in quite a familiar, quasi-democratic way and are apparently able to bring their swords along with them. This would certainly not be the case in the court of Great Britain. So the practice is definitely unusual, but there is not a lot of detail, and Dr. Coe is not very specific about what he means by “great households.”

However, there is enough specificity in the concept of royal courts as households and the idea that King Lamoni had a house, rather than a palace, to warrant identifying this as a correspondence. While this may not be a detailed correspondence or a particularly specific one, it is very unusual. Therefore, we assign this correspondence a likelihood of 0.5.

1.31 Candidates for high office had to possess hidden knowledge

Coe’s standard: “Any candidate for high office had to pass an occult catechism known as the ‘Language of Zuywa.’” (p. 236).

Book of Mormon correspondence: See Enos 1:1; Mosiah 1:2.

Analysis of correspondence: King Benjamin “caused that [his sons] should be taught in the language of his fathers, that thereby they might become men of understanding.” Later, his son Mosiah became the ruler of the people. Likewise, Enos (a prince of sorts) was also taught in the “language” of his father. One is led to ask: “Was the regular course of education not sufficient for these young men; was their common language not enough to qualify them to lead?” Apparently not. This correspondence has some detail, and while it is specific enough to get our attention, and is definitely unusual, we do not think it merits a likelihood of 0.02; instead it is assigned a likelihood of 0.1.

1.32 Abrupt breaks in dynasties

Coe’s standard: “Thus, we can expect a good deal of local cultural continuity even in those regions taken over by the great city; but in the case of the lowland Maya, we shall also see outright interference in dynastic matters, with profound implications for the course of Maya history. (p. 100). “there are signs of ... profound breaks in the dynasty” (p. 116).

Book of Mormon correspondence: See Omni 1:1-19; Alma 24:1-2.

Analysis of correspondence: *The Maya* also describes numerous other instances in which one Maya kingdom invaded another and abruptly changed the ruling dynasty. The same thing also occurs in the Book of Mormon,

when King Mosiah replaces (peacefully) the ruler(s) of Zarahemla; and later in Alma 24 when the rebellious Lamanites depose their hereditary king. So this correspondence is specific and detailed in both books, but it probably does not qualify as unusual. Joseph might well have known about the many European wars, with multiple rulers bent on deposing each other. Likelihood = 0.1.

1.33 Subservient peoples are said to “possess” the land while ruled by a dominant power

Coe's standard: “The kings of some lesser states were said to be ‘possessed’ by the rulers of more powerful ones” (p. 275).

Book of Mormon correspondence: See Mosiah 19:15.

Analysis of correspondence: It is interesting that this specific word *possess* is the one used by the Maya to describe subservient rulership. Likewise the Lehites (for example, 2 Nephi 1:9) and the Jaredites (for example, Ether 2:8) were instructed that theirs was a “promised land” and that they would “possess” it as long as they kept their covenants with their heavenly king. That same word *possess* was the relationship the Israelites were to have with their lands of promise, under God’s rule (for example, Deuteronomy 11:8, 2 Nephi 24:2). The wording here is highly specific, and unusual, but may not be detailed enough in the case of the Maya to warrant a likelihood of 0.02, but it does warrant a likelihood of 0.1. How would Joseph Smith have guessed how appropriate that particular word was to describe this relationship between a more powerful king and his subservient kings among the Maya?

Calculation of overall likelihood for political correspondences

There are 33 separate political correspondences between the Book of Mormon and *The Maya*. Of these, nine have a likelihood of 0.5, 16 have a likelihood of 0.1 and eight have a likelihood of 0.02. Thus the overall likelihood of these 33 positive correspondences is $0.5^9 \times 0.1^{16} \times 0.02^8 = 4.99 \times 10^{-33}$.

2. Cultural and Social Correspondences

2.1 Possible ancient origin of Mesoamerican cultures

Coe's standard: “Given the similarities among the diverse cultures of Mesoamerica, ... its peoples must share a common origin, so far back in time that it may never be brought to light by archaeology” (p. 14).

Book of Mormon correspondence: See the Book of Ether.

Analysis of correspondence: The Book of Mormon specifically refers to a much earlier migration, the “Jaredites,” from the Old World to the New World thousands of years before the Lehite migration. However, the Book of Mormon does not say, as Coe strongly implies above, that the earlier

culture was the common origin of subsequent cultures. Those details are lacking in the Book of Mormon. The pattern is, however, unusual. It is one thing for Joseph Smith to have “guessed” the existence of the Lehite colony, but to correctly guess another much, much earlier culture/migration is quite unusual. We rate this specific and unusual for a likelihood of 0.1.

2.2 Active interchange of ideas and things among the elite

Coe’s standard: “there must have been an active interchange of ideas and things among the Mesoamerican elite over many centuries” (p. 14).

Book of Mormon correspondence: See Omni 1:12-15; Mosiah 7:9,13; Alma 47:23, 35-36; Helaman 4:3-4, 8; Helaman 11: 24-25; Alma 63:14; 3 Nephi 1:28.

Analysis of correspondence: Coe is very specific and detailed in his statement. The Book of Mormon is likewise detailed and specific about the many exchanges of people (especially elite peoples) and ideas over centuries among the Book of Mormon peoples. Even a well-educated person, which Joseph Smith was certainly not, would have a hard time thinking of a historical model for this behavior, let alone blending it so seamlessly and unobtrusively into the larger Book of Mormon history. Therefore it is specific, detailed and unusual. Likelihood = 0.02.

2.3 Foreign brides for elites

Coe’s standard: “More than a negligible percentage of Tikal’s population came from elsewhere, including the introduction of foreign brides for elites” (p. 109).

Book of Mormon correspondence: See Alma 17:24 and Alma 47:35.

Analysis of correspondence: Ammon was a Nephite prince whom the king of the Lamanites sought as a husband for one of his daughters; and Ammonihah was a Nephite by birth who became king of the Lamanites after marrying the queen, so the correspondence is specific and detailed. There were indeed foreign brides for elites. However, Joseph might have been aware of the intermarriages among the royal houses of Europe, where elites also had foreign brides, so it is not unusual. Likelihood = 0.1.

2.4 Slavery practiced

Coe’s standard: “[Yucatan was famed for] production of honey, salt and slaves” (p. 19). “Slaves comprised both sentenced criminals and vassal war captives” (p. 225). “Human sacrifice was perpetrated on prisoners, slaves, and children” (pp. 243-44).

Book of Mormon correspondence: See Mosiah 7:15; Alma 27:8; 3 Nephi 3:7.

Analysis of correspondence: King Benjamin specifically states that he had *not* allowed his people to make slaves of one another, strongly implying that slavery was the usual practice. (Mosiah 2:13). The Lamanites offered to become slaves until they had recompensed the wrongs they had done to

the Nephites. The Gadiantons offered a partnership with the Nephites as an alternative to slavery. So the practice of slavery is specific and detailed in both books. Alas, slavery has never been unusual, and it was certainly known to Joseph Smith. Likelihood = 0.1.

2.5 Different languages found in pockets

Coe's standard: "Languages other than Mayan were found in isolated pockets, indicating either intrusions of peoples from foreign lands or remnant populations engulfed by the expansion of the Mayan tongues" (p. 31).

Book of Mormon correspondence: See Omni 1:19; Mosiah 9:6-7; Mosiah 23:30-35; Alma 27:22.

Analysis of correspondence: The Book of Mormon contains examples of both kinds of linguistic "pockets," both by intrusion and engulfment. So the correspondence is specific and detailed. It perhaps is not unusual, however. Joseph Smith might have reflected on the intrusion of English into the French peoples of Canada, or on the immigration of so many Germans during the Revolutionary War ... and then woven this idea seamlessly into the Book of Mormon. Unlikely in the extreme, but possible. To be (probably overly) conservative we rate this one as specific and detailed, but not unusual. Likelihood = 0.1.

2.6 In their creation stories, a great flood caused by human wickedness

Coe's standard. "men made from flesh. ... [Humankind] turned to wickedness and ... were in their turn annihilated ... as ... a great flood swept the earth" (p. 41). "the last Creation before our own ended with a great flood" (p. 249).

Book of Mormon correspondence: See 1 Nephi 5:11, Alma 10:22.

Analysis of correspondence: The Lehite colony had the five books of Moses, and thus the flood story. Among the Maya and the Lehighites, the great flood was specifically due to the wickedness of men. So the correspondence was specific and detailed. However, because Joseph Smith may have read *View of the Hebrews* (however unlikely that may be), we are not allowing this correspondence to be unusual. Likelihood = 0.1.

2.7 Possible settlement of the Americas by seafarers

Coe's standard: "The presence or absence of the Bering Strait is thus not necessarily relevant to the problem [of the settlement of the Americas]: the very first Americans may well have taken a maritime route" (p. 41). "From the setting sun we came ... from beyond the sea" (p. 224).

Book of Mormon correspondence: See 1 Nephi 18:8, 23; Omni 1:16; Ether 6:12.

Analysis of correspondence: Coe is specific on this point, but not particularly detailed, at least as regards his interpretation of the *Annals of the Kaqchikels*. In contrast, the Annals themselves seem to be very specific and detailed on

this point. According to the Kaqchikels, their ancestors came from the west, beyond the sea. The Book of Mormon is specific that both the Jaredite and Lehite migrations were by sea, and the Lehtes came from the west. We are not told how the Mulekites arrived. In Joseph's day, most educated persons believed in a Bering Strait migration of the ancestors of the American Indians, perhaps by the land bridge. So for Joseph to say that the Book of Mormon peoples came by sea was unusual. However, in deference to Coe's different interpretation of the *Annals* from a plain reading of that quotation, we rate this one as specific and unusual, but not detailed. Likelihood = 0.1.

2.8 Steep decline and disappearance of an ancient culture a few hundred years BC

Coe's standard: "There is some consensus among archaeologists that the Olmecs of southern Mexico had elaborated many of these traits beginning over 3,000 years ago, and that much of complex culture in Mesoamerica has an Olmec origin" (p. 14). "The Olmec civilization went into a steep decline ca 400 BC" (p. 61).

Book of Mormon correspondence: See Omni 1:21; Book of Ether, especially chapters 13-15.

Analysis of correspondence: This correspondence is detailed and specific. It also is unusual. What information or possible model did Joseph Smith have to "guess" a steep cultural decline among a very ancient American Indian culture at the same time the evidence summarized in *The Maya* says the decline occurred? In a word, how did he "guess" this one? Likelihood = 0.02.

2.9 Strong class distinctions based on noble birth, wealth and specialized learning

Coe's standard: "The esoteric knowledge of the Maya ... served to separate and elevate people in the know from those denied that privilege" (p. 96). "Now, while among some other peoples such kin groups are theoretically equal, among the Maya this was not so, ... for there were strongly demarcated classes" (p. 235). "At the top were the nobles, ... who had private lands and held the more important political offices, as well as filling the roles of high-ranking warriors, wealthy farmers and merchants, and clergy. The commoners were the free workers of the population, ... but in all likelihood even these persons were graded into rich and poor. There is some indication of a class of serfs, who worked the private lands of the nobles" (p. 235).

Book of Mormon correspondence: See Alma 32:2; Alma 51:21; 3 Nephi 6:11-12; 4 Nephi 1:26.

Analysis of correspondence: The correspondence is specific, and both the Book of Mormon and *The Maya* agree in the details upon which class distinctions were based, namely birth, wealth, and learning. While distinctions based on wealth and learning probably would not have seemed

unusual to Joseph Smith (coming from the working poor class), distinctions based on noble birth might have seemed unusual. To be conservative, we will not count this as unusual, only specific and detailed. Likelihood = 0.1.

2.10 Sacrifice of children and others to Maya gods

Coe's standard: "When the [Temple of the Feathered Serpent] was dedicated *ca AD 200*, at least 200 individuals were sacrificed in its honor" (p. 100). "The honored deceased was buried ... and [was] accompanied not only by rich offerings of pottery and other artifacts, but also by up to three persons sacrificed for the occasion (generally children or adolescents)" (p. 104). "Human sacrifice was perpetrated on ... children (bastards or orphans bought for the occasion), ... fit offerings for the Maya gods" (p. 243-44).

Book of Mormon correspondence: See Mormon 4:14-15, 21.

Analysis of correspondence: The practice is detailed and specific in both books. However, we do not count it as unusual. The practice of sacrificing children and infants is described in the Bible, and Joseph might have learned about it there. Likelihood = 0.1.

2.11 Multiple correspondences with Egyptian culture and concepts

Coe's standard: "The function of Maya pyramids as funerary monuments thus harks back to Preclassic times" (p. 76). "The Temple of the Inscriptions was a funerary monument with exactly the same primary function as the Egyptian pyramids" (p. 157). Not mentioned by Coe are several additional ties with Egypt. First, there is the fact that both the Egyptians and the Maya regarded the five days at the end of the year as unlucky.³¹ "A much-dreaded interval of 5 unlucky days added at the end" (p. 64). Second, the Hero Twins in the Maya story "resurrected their father Hun Hunahpu, the Maize God" (p. 71), just as Horus, the son of Osiris, resurrected his father in ancient Egyptian religion.³² Third and 4th include hieroglyphic writing, and grave goods. We wonder why Coe, who certainly knows of these additional correspondences between the Maya and the Egyptians, did not mention them. So we did it for him.

Book of Mormon correspondence: See 1 Nephi 1:2; Alma 10:3; Mormon 9:32.

Analysis of correspondence: The correspondence here is the tie with Egypt on multiple levels. The Book of Mormon claims to be written "in the characters called among us, the reformed Egyptian." Nephi starts out his record telling us that he made it "in the language of the Egyptians." Furthermore, Lehi was a descendant of Manasseh, who was born in Egypt of an Egyptian mother. The correspondences are detailed and specific as far as the Egyptian ties are

31. "History of the Egyptian Calendar," Infoplease, accessed September 28, 2018, <https://www.infoplease.com/calendar-holidays/calendars/history-egyptian-calendar>.

32. Wikipedia, s.v. "Osiris myth," last edited December 9, 2018, 06:57, https://en.wikipedia.org/wiki/Osiris_myth.

concerned, and very unusual. Why would Joseph Smith have “guessed” that the ancestors of the Indians had these ties with Egypt? This correspondence is specific, detailed and unusual, but since Dr. Coe mentioned only one of several possible ties with Egypt, we will downgrade the correspondence from 0.02 (specific, detailed and unusual) to merely specific, or likelihood = 0.5.

2.12 Mobile populations, founding new cities

Coe’s standard: “Many dynasties were founded in the Early Classic period. Several ... appear to have hived off from the southern Lowlands” (p. 108). “What is clear is that, far more than once thought, people moved about in the Early Classic periods” (p. 109).

Book of Mormon correspondence: See Omni 1:12-15; Alma 8:7; Alma 27:22; Alma 47:35.

Analysis of correspondence: Both the Book of Mormon and *The Maya* are full of examples in which large and small groups set out on their own to found new cities. In the Book of Mormon we have Nephi’s people separating from the other Lehitites after their arrival in the New World; Mosiah and his people leaving the main body of Lehitites and joining the people of Zarahemla; Zeniff and his people going up to reclaim the land of their first inheritance; the people of Ammon moving to avoid destruction; the flight of the people who followed Alma the Elder, and so on. The correspondence is specific and detailed, but probably not unusual. Joseph Smith and his family were themselves part of a highly mobile American frontier population, busy founding new communities. Likelihood = 0.1.

2.13 Menial workers, extreme inequality, ignorance and oppression

Coe’s standard: “The royal cooks and cleaners or other menials ... did not merit mention” (p. 129). “Among some other peoples such kin groups are theoretically equal, among the Maya this was not so. ... The commoners were the free workers, ... but in all likelihood even these persons were graded into rich and poor. ... And at the bottom were the slaves who were mostly plebeians taken in war. ... Slavery was hereditary” (p. 235). (See the entirety of p. 235.)

Book of Mormon correspondence: See Alma 17:26-33; Alma 32:4-5; Alma 35:9; 3 Nephi 6:10-12.

Analysis of correspondence: The Book of Mormon details the same sources of inequality as does *The Maya*: those owing to education, social status and wealth. So the correspondence is specific and detailed. Again, alas, this correspondence would certainly not have been unusual to Joseph and his family ... as relatively poor “commoners [and] free workers,” using Coe’s words. Since this correspondence has some overlap with 2.9, we reduce its probative weight from 0.1 to 0.5. Likelihood = 0.5.

2.14 Marketplaces exist

Coe's standard: “a variety of men, women and even children involved in the buying and selling of commodities including shelled maize, maize *tamales*, atole (maize gruel), salt and even vases” (p. 145). “These are unique scenes of daily life within a bustling marketplace. ... Such markets have been found at a number of other Classic Maya cities” (p. 146). “There was a great market at Chichen Itza” (p. 233).

Book of Mormon correspondence: See Helaman 7:10.

Analysis of correspondence: The Book of Mormon is specific about the existence of markets, but not detailed, except that there was a “chief” market in Zarahemla, which was also the leading city of the Nephite civilization at that time, strongly implying that there were other, less prominent markets in Zarahemla or elsewhere. *The Maya* is highly detailed, however. This is undoubtedly unusual. What North American tribes did Joseph Smith know of that had settled, stationary marketplaces? So how did he “guess” that one correctly? Specific and unusual for a likelihood of 0.1.

2.15 People driven from their homes wander searching for a new home

Coe's standard: “The Itza ... were driven from this town ... and wandered east across the land, ... where they settled as squatters in the desolate city [of Chichen Itza]” (p. 216) “Those Itza who were driven from Chichen Itza [wandered back] to the Lake Peten Itza” (p. 219).

Book of Mormon correspondence: The Lehitites were driven from their Jerusalem home and wandered for years before they found a home in the New World. Alma the Elder and his people were driven from their homes by King Noah and wandered in the wilderness until they found a home. The Anti-Nephi-Lehites were likewise driven from their homes and had to seek a new home in a strange land.

Analysis of correspondence: This correspondence is specific and detailed in both books. It also seems unusual. Where would Joseph Smith have gotten this idea of a wandering people seeking for a new home? Most people do not read the *Aeneid* until college, if they ever read it at all. What other literary work might Joseph have gotten this idea from? Specific, detailed and unusual. Likelihood = 0.02.

2.16 Wasteful architectural extravagance

Coe's standard: “intensification of inter-elite competition, manifesting itself in different ways: not only in ‘wasteful architectural extravagance’” (p. 175).

Book of Mormon correspondence: See Mosiah 11:8-11.

Analysis of correspondence: In both books, the correspondence is specific and detailed as to ornamentation and costly excess for the thrones, palaces, etc., of the elite. Joseph Smith was an unsophisticated young man who had

lived his life as a member of the working poor. How would he know about such extravagance? How would he know how to describe such ornate things without going overboard? Where would he have seen such things? This is certainly unusual. So the correspondence is specific, detailed and unusual. Likelihood = 0.02.

2.17 Large northward migrations specifically mentioned

Coe's standard: "They could have been the Yukateko on their trek north to Yucatan from the Maya homeland" (p. 47). "Old thrones toppled in the south as a new political order took shape in the north; southern cities fell into the dust as northern ones flourished" (p. 174). "The early Colonial chronicles in Yukateko speak of a 'Great Descent' and 'Lesser Descent,' implying two mighty streams of refugees heading north from the abandoned cities" (p. 177). The Yukateko trek took place many centuries before the Late Classic migration northward, so this kind of thing happened in widely different periods.

Book of Mormon correspondence: See Alma 63:4-9; Helaman 3:3-12.

Analysis of correspondence: The Book of Mormon speaks repeatedly of the "land northward" as the place where the Nephites could flee or go into to settle. The land northward was where the Nephites made their last stand and were finally destroyed. These northward flights also took place over centuries. This is really a "bull's eye" for the Book of Mormon: a specific, detailed and unusual correspondence. Likelihood = 0.02.

2.18 Constant migrations

Coe's standard: "At some point ... there was a single Mayan language, Proto-Mayan, perhaps located in the western Guatemalan highlands. According to one linguistic scenario, Wastekan and Yukatekan split off from this parent body, with Wastek migrating up the Gulf Coast to northern Veracruz and Tamaulipas in Mexico, and Yukatekan occupying the Yucatan Peninsula. ... The parent body then split into two groups, a Western and an Eastern Division. In the Western group, the ancestral Ch'olan-Tzeltalan moved down into the Central Area, where they split into Ch'olan and Tzeltalan. The subsequent history of the Tzeltalans is fairly well known: in Highland Chiapas, many thousands of their descendants, the Tsotsil and Tzeltal, maintain unchanged the old Maya patterns of life. ... Other Western language groups include Q'anjob'al, Tojol-ab'al, Mocho', and Chuj, which stayed close to the probable homeland ... The Eastern Division includes the Mamean group of languages. Mam itself spilled down to the Pacific coastal plain at an unknown time" (p. 28).

Book of Mormon correspondence: See: Words of Mormon 1:13; Mosiah 10:10; Alma 2:16, 32; Alma 54:16-20.

Analysis of correspondence: The correspondence is specific. Book of Mormon peoples indeed moved around a lot, just as *The Maya* describes. But apart from the large northward migrations already described in 2.17 above, other details are lacking. Also, this is certainly not unusual. Joseph Smith and his family were part of a mass westward migration of Americans that had been going on for a very long time. Likelihood = 0.5.

2.19 Cities and lands named after founder

Coe's standard: "an individual called Ek' Balam, ... after whom the place was anciently named" (p. 194).

Book of Mormon correspondence: See Mosiah 23:31; Alma 8:7; Alma 17:19; 3 Nephi 9:9.

Analysis of correspondence: The correspondence is specific in both the Book of Mormon and *The Maya*, but Coe does not mention many examples of this practice, so it is not detailed to the same degree it is in the Book of Mormon. Also, in frontier America it was common practice to name small towns and villages after the founder or founding family. So this practice would not have been unusual. Likelihood = 0.5.

2.20 Maya say their ancestors came from the west, beyond the sea

Coe's standard: "From the setting sun we came, from Tula, from beyond the sea" (p. 224).

Book of Mormon correspondence: 1 Nephi 18:8, 23. This is clearly the claim of the Book of Mormon: the Lehite colony came from the west from beyond the sea.

Analysis of correspondence: Coe discounts this statement as self-serving political propaganda by those claiming descent from those hailing from "the legendary home in the west." Perhaps, but why would it have any political power if the claim itself did not somehow matter to the populace? And since Dr. Coe thinks the Book of Mormon is fiction (or legend), then the Book of Mormon is accurate and detailed in also making that claim, even if fictional. Given similar statements in *View of the Hebrews*, we do not count this as unusual, but it is both specific and detailed. Likelihood = 0.1.

2.21 Their sacred writing has poetic parallelisms, repetitions

Coe's standard: "'The raised wooden standard shall come! ... Our lord comes, Itza! Our elder brother comes, oh men of Tantun! Receive your guests, the bearded men, the men of the east, the bearers of the sign of God, lord!'" (Thus said the prophet Chilam Balam, p. 227). From one of the books of Chilam Balam as follows:

"Eat, eat, thou hast bread;
 Drink, drink, thou hast water;
 On that day, dust possesses the earth;

On that day, a blight is on the face of the earth,
 On that day, a cloud rises;
 On that day, a mountain rises;
 On that day, a strong man seizes the land;
 On that day, things fall to ruin,
 On that day, the tender leaf is destroyed,
 On that day, the dying eyes are closed,
 On that day, three signs are on the tree,
 On that day, three generations hang there,
 On that day, the battle flag is raised,
 And they are scattered afar in the forests,
 On that day, the battle flag is raised,
 And they are scattered afar in the forests.” (p. 229).

In the podcasts, referring specifically to chiasmus and poetic parallelisms, Coe says that “something like that” exists in Maya literature, even as little of that literature as we have. And Coe praises Professor Allen Christenson’s translation of the *Popol Vuh* as “wonderful.”³³ Christenson’s translation is explicitly rendered in poetic parallelisms and chiasms.³⁴

Book of Mormon correspondence: The reader is referred to Professor Donald Parry’s reformatted version of the Book of Mormon in parallelisms and repetitions.³⁵

Analysis of the correspondence: It is simply without doubt that the Book of Mormon is written in poetic parallelisms and repetitions. We have Coe’s own citations from Chilam Balam, his praise of Christenson’s translation of the *Popol Vuh*, etc., to confirm that this correspondence is specific, and detailed. As to “unusual,” Coe says in the podcasts that the fact that the Book of Mormon has chiasms and poetic parallelisms “means nothing,” that this type of language is found around the world.³⁶

Coe thinks that the Book of Mormon has such language because Joseph Smith knew the Old Testament “very, very well.” We disagree completely. The

33. Dehlin, “Dr. Michael Coe — An Outsider’s View of Book of Mormon Archaeology,” episode 270, 27:30.

34. Allen J. Christenson, trans., *Popol Vuh: The Sacred Book of the Maya: The Great Classic of Central American Spirituality, Translated from the Original Maya Text* (Norman, OK: University of Oklahoma, 2003), <http://www.mesoweb.com/publications/Christenson/PopolVuh.pdf>.

35. Donald W. Parry, *Poetic Parallelism in the Book of Mormon* (Provo, UT: Neal A. Maxwell Institute for Religious Scholarship, Brigham Young University, 2007), https://publications.mi.byu.edu/publications/bookchapters/Poetic_Parallelisms_in_the_Book_of_Mormon_The_Complete_Text_/Poetic%20Parallelisms%20in%20the%20Book%20of%20Mormon.pdf.

36. Dehlin, “Dr. Michael Coe — An Outsider’s View of Book of Mormon Archaeology,” episode 270, 28:10.

Hebrew chiasms and poetic parallelisms in the Old Testament were largely erased by the scholars who translated the King James Bible into English.

Even if Joseph Smith knew about this kind of language, it is entirely another thing to be able to write (or more challenging yet, dictate) more than 300 separate chiasms into the Book of Mormon in such a way that they integrate seamlessly with the message of the book. Moreover, none of Joseph Smith's own written sermons or other writings use these poetic parallelisms. If Dr. Coe is correct, why did Joseph Smith write these poetic parallelisms into the Book of Mormon and then completely stop writing like this? We find this objection inconsistent and unformed.

We invite Dr. Coe or anyone else to dictate a chiasm like Alma Chapter 36. They can't do it. This is unusual in the extreme. We would like to give it a much higher weight (one in a billion?) but our own weighting scheme forbids that. Instead, we give it a likelihood of 0.02.

2.22 Corn first among grains

Coe's standard: "This crop [maize] is so fundamental today that its cultivation and consumption define what it means to be Maya" (p. 242).

Book of Mormon correspondence: See Mosiah 7:22; Mosiah 9: 9, 14.

Analysis of correspondence: In the Book of Mormon, corn is the first grain mentioned; and not just once but all three times corn is mentioned in the Book of Mormon, it is the first or the only grain mentioned, not wheat. So this correspondence is specific and detailed. But we do not count it as unusual, because *View of the Hebrews* also mentions the primacy of corn among the Indians. Likelihood = 0.1.

2.23 Multiple wives/concubines especially among the rich

Coe's standard: "From the ceramics at a site such as El Perú we get an idea of the palace staff described in Chapter 4: the courtiers and attendants, royal ladies or concubines" (p. 129). "Monogamy was the general custom, but important men who could afford it took more wives" (p. 234).

Book of Mormon correspondence: See Jacob 1:15; Jacob 2:27; Mosiah 11:4; Ether 10:5.

Analysis of correspondence: The practice is specific in both books, and is generally limited to rich men taking more wives. So the practice is also detailed to that extent. Joseph would have been aware of the practice of multiple wives among the Biblical patriarchs, and also with David and Solomon. Among some Indian tribes, important men also took multiple wives. So it is not unusual. Specific and detailed, likelihood = 0.1.

2.24 Important to trace one's genealogy to a prominent ancestor

Coe's standard: "to be able to trace one's genealogy in both lines to an ancient ancestry was an important matter, for there were strongly demarcated classes" (p. 235).

Book of Mormon correspondence: See Mosiah 25:13; Alma 10:1-3; 3 Nephi 5:20; Ether 1:6-33; Ether 6:22-25; Mormon 1:5; Mormon 8:13.

Analysis of correspondence: Coe describes this practice clearly and in some detail. The Book of Mormon also describes it clearly and in great detail. Why would this idea occur to Joseph Smith in democratic frontier America in the early 1800s? America had recently thrown off the rule of a class-based society, the British. So the correspondence also seems unusual. Specific, detailed and unusual. Likelihood = 0.02.

2.25 Genealogies kept very carefully by the priests

Coe's standard: "According to the early sources, the Maya books contained histories, prophecies, maps, tribute accounts, songs, 'sciences,' and genealogies" (p. 239). "Far more is known of later Maya priests. ... [They] kept the all-important genealogies" (p. 243).

Book of Mormon correspondence: See 1 Nephi 3:3, 12; 1 Nephi 5:14; 1 Nephi 6:1; Jarom 1:1; Omni 1:1, 18; Alma 37:3.

Analysis of correspondence: This practice of the priests (religious leaders) carefully keeping genealogies is specific and detailed in both *The Maya* and in the Book of Mormon. It is also unusual. We know of no contemporary practice or model in Joseph's Smith's world that put such emphasis on priests keeping a careful, written, long-term record of one's ancestors, a record handed down over centuries. Specific, detailed and unusual. Likelihood = 0.02.

2.26 Homosexuality probably practiced

Coe's standard: "The latter include ... amorous activities that are probably of a homosexual nature" (p. 258).

Book of Mormon correspondence: See Alma 30:18.

Analysis of correspondence: The Book of Mormon's reference to homosexual practices is veiled, but clear enough. How else does a man commit "whoredoms"? There are no details in either book, and the practice is not unusual. Likelihood = 0.5.

2.27 Arcane sacred or prestige language

Coe's standard: "Ch'olti'an became a literary language of high prestige among scribes ... [and like other prestige languages in other civilizations] continued to be the preferred written languages long after the spoken ones had died out or transformed into something else" (pp. 30-31). "Ch'olti' ... may well have served as a *lingua franca* among elites and surely evolved, as

did Medieval Latin and Coptic, into an arcane sacred language used by few” (p. 270).

Book of Mormon correspondence: See 1 Nephi 1:2 and 3:19; Mosiah 1:2, 4; Mormon 9:34.

Analysis of correspondence: The Book of Mormon emphasizes “the language of the fathers,” a written language connected to the language of the Egyptians. It is the language in which the plates were written and was known to very few. It was obviously not the common language. The reference is specific for both books, detailed and unusual. Joseph Smith had not even mastered English at the time the Book of Mormon came forth and certainly knew nothing of Coptic or Medieval Latin, which he might have used as a model for this correspondence. Likelihood = 0.02.

2.28 Practice of repopulating old or abandoned cities

Coe's standard: “the Itza ... moved into the peninsula ... in the thirteenth century, and gave their name to the formerly Toltec site of Chichen” (p. 202).

Book of Mormon correspondence: See Mosiah 9:8; Helaman 11:20; 4 Nephi 1:7.

Analysis of correspondence: The practice is specific in both books, although Coe offers only one example for detail while the Book of Mormon offers several examples. It is doubtful that Joseph Smith knew of any examples around him that could serve as a model for this practice. America was being built up by founding new cities and towns, not repopulating old or abandoned ones. So the correspondence is specific and unusual. Because Coe cites only one example, we will not claim it to be detailed. Likelihood = 0.1.

2.29 World divided into four quarters or quadrants

Coe's standard: “Another pervasive idea was the division of the world into sectors [four of them]. ... In the Classic period, eagles were thought to perch in each of the four directions” (p. 246). “The four walls of spectacular ... royal tombs ... display distinct hills. ... Placed in the middle, the deceased became the center of the universe” (p. 247). “a map of world directions, adorned with gods and sacrifices appropriate to each quarter, ... celebrations ... presided over by a set of four young gods, a nod to the four directions” (p. 249). “The Zinacanteco world is conceived of as a large quincunx, with four corners and a ‘navel of the earth’ in the middle” (p. 292).

Book of Mormon correspondence: See 1 Nephi 22:25; 3 Nephi 16:5; Ether 13:11.

Analysis of correspondence: Both *The Maya* and the Book of Mormon are specific and detailed about the idea that the world is divided into four quarters. If Joseph Smith was making this up, why not into halves, or thirds or eighths? Coe (p. 247) notes that this idea is widespread and very ancient among humankind, which is probably why we ourselves talk in this way

about the four quarters of the earth, without giving it much thought. Specific and detailed, but for this reason, not unusual. Likelihood = 0.1.

2.30 Maya fascinated by ancient Olmec culture

Coe's standard: “there are also good reasons to believe that it was the Olmecs who devised the elaborate Long Count calendar. . . . Many other civilizations, including the Maya, ultimately drew on Olmec achievements” (p. 54). “In art, in religion, in state complexity, and perhaps even in the calendar and astronomy, Olmec models were transferred to the Maya” (p. 61). “The Maya looked to the west [toward Olmec lands] . . . as the enduring locus of civilization” (p. 63).

Book of Mormon correspondence: Because of the 24 gold plates found by the people of Limhi among the ruins of an ancient civilization, The Book of Mormon also looks to an ancient, destroyed civilization as a source of knowledge, but apparently exclusively as a source of depraved knowledge of “secret combinations” rather than of useful accomplishments. For example, see Mosiah 8:9; Alma 37:29, 32; Ether 8:9 and 9:26. It is interesting that both the Jaredites and the Maya were ultimately destroyed because of “endemic, internecine warfare” (Coe’s words; see above).

Analysis of correspondence: The correspondence is certainly specific, but the details do not match, perhaps because of the very different orientations of the two books. The Book of Mormon tells us that the Nephites were destroyed because of their embrace of the secret combinations also found in the book of Ether, so the Book of Mormon probably would not be inclined to tell us if anything useful and good came from the Jaredite records. It is also unusual. Why would Joseph Smith “guess” that the ancient Indians looked toward an even more ancient civilization for guidance, either for good or bad? This correspondence is specific and unusual. Likelihood = 0.1.

2.31 Lineage histories dominate the written records

Coe's standard: “It was not just the ‘stela cult’ — the inscribed glorification of royal lineages and their achievements — that disappeared with the Collapse” (p. 177), “Native lineages seem to have deliberately falsified their own histories for political reasons” (p. 199). “[A postclassic site] . . . consists of plazas surrounded by lineage temples” (p. 225n145).

Book of Mormon correspondence: The Book of Mormon is a lineage history. It begins with the story of Lehi and his family, and was later edited and compiled by Mormon (“a pure descendant of Lehi,” 3 Nephi 5:20) and his son Moroni. The Book of Ether is likewise a lineage history. Ether was a direct descendant, through many centuries, of Jared.

Analysis of correspondence: The correspondence is specific and detailed in both books. It is also unusual. How could Joseph Smith have learned about lineage histories, and woven this correspondence into the fabric of the

Book of Mormon in such an unobtrusive and comprehensive way? How did he “guess” this one correctly? Likelihood = 0.02.

Calculation of overall likelihood for Social and Cultural Correspondences

There are 31 separate social and cultural correspondences between the Book of Mormon and *The Maya*. Of these, five have a likelihood of 0.5, 16 have a likelihood of 0.1, and ten have a likelihood of 0.02. Thus the overall likelihood of these 31 positive correspondences is $0.5^5 \times 0.1^{16} \times 0.02^{10} = 3.21 \times 10^{-35}$.

3. Religious Correspondences

3.1 Central role of temples (ritual centers) in society

Coe's standard: “Kaminaljuyu ... consisted of several hundred temple mounds” (p. 55). “The lowland Maya almost always built their temples over older ones” (p. 59). “On top of this ... pyramid had once been a pole-and-thatch building” (p. 82n33). “Even more advanced temples have been uncovered at Tikal” (p. 83).

Book of Mormon correspondence: See 2 Nephi 5:16; Mosiah 9:8; Mosiah 11:8-10; Helaman 1:21; Helaman 13:4; 3 Nephi 11:1.

Analysis of correspondence: Temples, ritual centers, were obviously central to Maya life. So were they also among the Nephites. One of the very first things that Nephi's small group does after splitting off is to build a temple “after the manner of the temple of Solomon” (2 Nephi 5:16). King Benjamin gathers his people around the temple. After the great destruction, the Nephites gather around the temple in the Land of Bountiful, and the risen Lord appears. While this correspondence is specific and detailed, we do not count it as unusual, because Joseph Smith might — perhaps, possibly, conceivably — have gotten the idea from *View of the Hebrews*. Likelihood = 0.1.

3.2 Strong Christian elements in Maya religion

Coe's standard: “Many Colonial-period Maya identified the risen Christ with the Maize God” (p. 71). “The raised wooden standard shall come! ... Our lord comes, Itza! Our elder brother comes. ... Receive your guests, the bearded men, the men of the east, the bearers of the sign of God, lord!” (p. 227). “There was ... a great deal of ... blending between Spanish and Maya religious institutions and beliefs, since in many respects they were so similar” (p. 289).

Book of Mormon correspondence: From the title page to the last chapter, the Book of Mormon is, as it claims to be, another witness that Jesus is the Christ.

Analysis of correspondence: In both books, the correspondence is specific, detailed and very unusual. Why would Joseph Smith have “guessed” that the ancient Mesoamericans had strong elements of Christianity in their religious practices? *View of the Hebrews* claims to find ancient Hebrew elements among American Indian tribes, but not Christian elements. So this is specific, detailed and unusual. Likelihood = 0.02.

3.3 Change in popular cults; decline of a great city in the highlands in the Late Preclassic

Coe’s standard: “While the pre-eminence of Kaminaljuyu during the Late Preclassic period is plain to see, its star began to sink by the second and third centuries AD, and most of it was left in ruin at the close of the Late Preclassic” (p. 80), “It is strange that figurines are absent from most known Chicanel sites, indicating that there was a change in popular cults [during the Late Preclassic 300 BC to AD 250]” (p. 81).

Book of Mormon correspondence: See Helaman Chapters 10 and 11, 3 Nephi (all), and 4 Nephi 1:20, 35–40. This is the time period with which the Book of Mormon deals most intensively, and it includes many separate events of religious awakening, increased faith and great prosperity, which are then followed by apostasy and idolatry. Thus there are indeed many changes in “popular cults,” including the final one starting in about AD 200. Fourth Nephi outlines the fall and disintegration of Nephite society, which begins about this time.

Analysis of correspondence: The correspondence is specific in both books, but much more detailed in the Book of Mormon than in *The Maya*. The timing is also unusual. In the long centuries of Maya civilization (roughly 1800 BC to 900 AD) the Book of Mormon correctly “guesses” the period that Coe recognizes as a dramatic one when “a change in popular cults” occurred. We count this one as specific and unusual. Likelihood = 0.1.

3.4 Close association of temples with sacred mountains/hills (pyramids)

Coe’s standard: “Rising up the corners of the temple’s substructure are monstrous faces representing *witz* or mountains” (p. 136). “Long thought to be faces of the Maya rain god Chahk, they are actually iconographic mountains (*witz*), the descendants of the corner masks placed on Classic-period monuments like Copan’s Temple 11” (p. 180).

Book of Mormon correspondence: 2 Nephi 12:2–3.

Analysis of correspondence: The correspondence is specific and quite detailed in both books. The temples are associated with sacred mountains, for example the Temple Mount in Jerusalem. Although perhaps Joseph Smith might have gotten the idea from careful reading of the Bible, nothing in conventional Christianity of his day would have prepared him to see the

association between temples and holy sacred mountains, a concept shared by the Nephites and by the Maya. This is specific, detailed and unusual. Likelihood = 0.02.

3.5 Seers and seer stones exist

Coe's standard: "Two of the houses were certainly devoted to village rituals; Structure 12 in particular had ... a collection of crystals like those used by modern Maya diviners" (p. 107). "Two types of religious specialists practice here and in other traditional Yukateko settlements. One is ... seemingly imbued with far greater spiritual and perhaps real power: this is the *hmeen*, 'he who does or understands things.' ... These specialists still play an important role in divination and prophecy, using their crystals to scry the future" (p. 296). "The rite begins after the *hmeen* has consulted his *zastun* or crystal" (p. 297).

Book of Mormon correspondence: See Mosiah 8:13-17; Mosiah 28:13-16; Ether 3:23-24, 28.

Analysis of correspondence: The correspondence is specific and detailed in both the Book of Mormon and *The Maya*. However, we do not count it as unusual, although it will certainly appear unusual to the modern mind. Joseph Smith had his own seer stone before the coming forth of the Book of Mormon and might have used that as his model for including seer stones and seers in the book. Likelihood = 0.1.

3.6 Temple and other religious rituals involve bloodletting

Coe's standard: "In the great courtyards less private activities took place, including dances, ritual bloodletting from the penis and tongue on calendrically important days" (p. 129). "These were inscribed within a very brief period ... and celebrate ... temple dedication rituals such as bloodletting" (p. 184). "Before and during rituals, ... self-mutilation was carried out by jabbing needles and stingray spines through ears, cheeks, lips, tongue, and the penis, the blood being spattered on paper or used to anoint the idols" (p. 243).

Book of Mormon correspondence: See Jarom 1:5, 11; Alma 25:15-16; Mosiah 13:27-28.

Analysis of the correspondence: Up until AD 33 or so, the Nephites practiced the Law of Moses, with its temple rituals involving bloodletting. Presumably they also followed the Abrahamic practice of circumcision. While the practices described in *The Maya* and the Law of Moses correspond in that they involve bloodletting from both human and animals for religious rituals, the details overlap only somewhat. Also they would probably not be unusual to a Bible-reading individual. Specific, but not detailed nor unusual. Likelihood = 0.5.

3.7 Belief in resurrection

Coe's standard: "Following their ultimate victory, they resurrected their father Hun Hunahpu, the Maize God" (p. 71). "Modern rendering of a wall painting of the resurrected Maize God surrounded by female figures" (p. 88n36). "Significantly, ... the ruler is portrayed not as K'awiil, but as the youthful Maize God, ... a representation celebrating resurrection and apotheosis" (p. 195). "Both ... had a hero god who died and was resurrected — for the Spaniards, this was Jesus Christ, and for the Maya, the Maize God" (p. 289).

Book of Mormon correspondence: See 2 Nephi 9:12; Alma 41:2; Alma 33:22 among many others. There are 57 references to the resurrection of Jesus Christ in the Book of Mormon.

Analysis of the correspondence: Both the Book of Mormon and *The Maya* refer specifically and in detail to a belief in bodily resurrection. The doctrine of a literal bodily resurrection had been in retreat in Christianity for centuries — so there was no intellectual reason for Joseph to put it forward as a prominent part of the Book of Mormon. Also, as far as we know, the North American Indians did not believe in resurrection. *View of the Hebrews* says nothing about such a belief among the Indians. How did Joseph Smith correctly "guess" that the belief might be held by distant ancestors of some of the Mesoamerican Indians? Specific, detailed and unusual. Likelihood = 0.02.

3.8 Baptismal rite among the Maya

Coe's standard: "As soon as possible, the anxious parents [of a newborn child] went to consult with a priest so as to learn the destiny of their offspring, and the name which he or she was to bear until baptism. The Spanish Fathers were quite astounded that the Maya had a baptismal rite, which took place at an auspicious time" (p. 233).

Book of Mormon correspondence: See 2 Nephi 31:13; Mosiah 21:35; Moroni 6:1-4 and many others. It is interesting that a new name was received at the time of baptism in the Book of Mormon and among the Maya (see above).

Analysis of the correspondence: The practice of baptism is specific and detailed in both the Book of Mormon and in *The Maya*. It is also unusual. If the Spanish Fathers were "astounded" at the baptismal rite of the Maya, we should be also. Specific, detailed and unusual. Likelihood = 0.02.

3.9 Ritual walking in straight roads symbolizes acceptable behavior

Coe's standard: "At the site of Edzna, ... occupants had constructed a massive hydraulic system, consisting of 13.75 miles (22 km) of canals ... (resembling aquatic versions of Maya ritual roads)" (p. 90). "Coba is ... a whole group linked to a central complex by long, perfectly straight masonry causeways usually called ... *sakbe* ("white road"). ... Some have claimed that the Maya

sakbe were arteries of commerce, but a purely ceremonial function is far more plausible” (p. 163). “A causeway, or *sakbih*, 11.25 miles (18 km) long runs southeast from Uxmal through the small site of Nohpat to Kabah, so presumably the three centers were connected at least ceremonially” (p. 182). “Processional routes, the ‘white roads’ or *sakbih* described earlier, carved straight paths across broken landscapes. To walk along them was to move in acceptable, ritually decorous ways” (p. 242).

Book of Mormon correspondence: See 2 Nephi 4:32; 2 Nephi 9:41; Alma 7:9.

Analysis of correspondence: The correspondence is quite specific in both the Book of Mormon and *The Maya*, and it is certainly unusual. What religious practice did Joseph Smith know of that resembled this ritual behavior in the least? But details are not provided in the Book of Mormon, so the practice is specific and unusual, but not detailed. Likelihood = 0.1.

3.10 Humans obligated to abide by covenants, God usually involved

Coe’s standard: “Ultimately, humans were obligated to abide by covenants. A covenant, as defined by the ethnographer John Monaghan, is a binding contract that explains how one should behave. Gods were usually involved, as in the case of maize production” (p. 242).

Book of Mormon correspondence: See Mosiah 5:6-8; Mosiah 6:1-2; Mosiah 21:31-32.

Analysis of correspondence: *The Maya* and the Book of Mormon share a common understanding of covenants as a binding contract or agreement between God and man. This is specific and detailed. It is also unusual. What existing model or pattern did Joseph Smith rely on to correctly “guess” that covenants between God and man existed among ancient Mesoamerican Indians? In the conventional Christianity of Smith’s day, the importance of covenants was very much downplayed if not absent altogether. So the practice is specific, detailed and unusual. Likelihood = 0.02.

3.11 Hereditary priests and Chief Priests

Coe’s standard: “Far more is known of later Maya priests. In contrast to their Aztec counterparts, they were not celibate. Sons acquired their fathers’ offices, although some were second sons of lords” (p. 243). “During the prosperity of Mayapan, a hereditary Chief Priest resided in that city” (p. 243).

Book of Mormon correspondence: See Mosiah 29:42; Alma 45:22-23; Alma 46:6.

Analysis of correspondence: Both the Book of Mormon and *The Maya* teach clearly of hereditary priests and chief priests. This correspondence is detailed and specific. It is also unusual. Joseph Smith’s experience of frontier priests would have been of the Protestant variety, who were not celibate, but who instead were “trained for the ministry” and did not inherit their offices; or of the Catholic variety, who were celibate and therefore could not pass on

their priestly office to a son. How did Joseph Smith correctly “guess” that among some of the distant ancestors of the Indians, priests were not celibate and that priestly office could descend from father to son? Likelihood = 0.02.

3.12 Existence of opposites is an essential part of creation

Coe’s standard: “A relevant Maya term from these ceramics is *tz’ak*, the idea of ordering. A key part of creation was the establishment of opposites. These are presented in alternative spellings for the *tz’ak* glyph. ... The exquisite Tablet of the 96 Glyphs ... lays out a long series of such opposed pairs. It begins with sun and night, followed by possibly life and death, then Venus and moon, wind and water” (p. 251).

Book of Mormon correspondence: See 2 Nephi 2:11-15.

Analysis of correspondence: The words *create* or *creation* are used six times in these five verses in the Book of Mormon, all strictly in the context of opposed pairs. The correspondence is specific and detailed. It is also unusual. What document or religious teaching could Joseph Smith have possibly used that would have led him to correctly “guess” this belief shared by the Maya and the Book of Mormon patriarch Lehi? Specific, detailed and unusual. Likelihood = 0.02.

3.13 Pantheistic religion and idols

Coe’s standard: “along with the latter three temples, each of these was consecrated to a single god among the triad of divinities from whom the Palenque dynasty claimed descent” (p. 157). “Flanking the tableau are two strange deities with rodent heads” (p. 160). “On one side, the god K’awiil (left) faces God L, the deity of tobacco” (p. 166n100). “The face of the Jaguar God of the Underworld is surmounted by the heads of other deities, including a Bat God” (p. 166n101).

Book of Mormon correspondence: See Alma 7:6; Alma 17:15; Alma 31:1; Helaman 6:31; Mormon 4:14, 21.

Analysis of correspondence: The references to idol gods are specific and detailed in both the Book of Mormon and *The Maya*. However, this correspondence is not unusual. The Bible also clearly refers to this practice, and Joseph would have known of it. Likelihood = 0.1.

3.14 Sorcery, magic and witchcraft practiced

Coe’s standard: “According to one story, by means of sorcery Hunac Ceel drove Chak Xib Chak to abduct the bride of the ruler of Izamal” (p. 218). “or refer to diseases controlled by kings in an elevated, almost dynastic form of sorcery” (p. 256). “Witchcraft is an omnipresent danger; the witch takes the form of an animal alter-ego” (p. 297). “Defeated by the evil magic of his adversary Tezcatlipoca, the king was forced to leave Tula with his followers” (p. 201).

Book of Mormon correspondence: See Alma 1:32; Mormon 1:19; Mormon 2:10.

Analysis of correspondence: *The Maya* and the Book of Mormon both refer specifically, negatively and in some detail to the practice of magic, sorcery and witchcraft among the peoples described in the two books. A belief in the practice of evil magic, however, would probably not be unusual to Joseph Smith. It was part of the world view during the early 19th century in backwoods America. Specific and detailed, likelihood = 0.1.

3.15 Ritual for the renewal of the community, including transfer of sacred objects

Coe's standard: "The entire religious drama is directed toward renewal of the universe and of the community, and ends with the transfer of the sacred objects of office to a new set of cargo-holders" (p. 295).

Book of Mormon standard: See Mosiah Chapters 1-6.

Analysis of the correspondence: King Benjamin's gathering of his people to the temple, complete with community-wide covenant making at the time of the transfer of his kingly office to his son, along with the transfer of sacred objects, is very nearly a perfect fit with Coe's standard described above. This is specific, detailed and unusual. What possible model or contemporary practice could Joseph Smith have drawn upon to describe King Benjamin's gathering of his people so perfectly? Likelihood = 0.02.

3.16 Blurring/combining priestly and political roles

Coe's standard: "In other respects, the distinction between priestly and political roles may have been blurred in the Classic period" (p. 243).

Book of Mormon correspondence: See Mosiah 2:1; see also the Foreword to the Book of Alma.

Analysis of correspondence: The correspondence is specific. Priestly leadership and political leadership were sometimes combined/blurred in both books, but not always, as described in correspondence 1.27 above. Also, there is not enough detail provided in either book to rank this as unusual, so the evidence is weighted as specific only. Likelihood = 0.5.

3.17 Divination: consulting oracles for secular guidance and assistance

Coe's standard: "Specialists took charge of these prayers or acts of divination ... to discern messages from the gods and to understand the imbalances leading to disease, drought, and other problems" (p. 243). "Later Maya priests [administered] ... 'their methods of divination ... events and the cures for diseases'" (p. 243). "An important function of all highland shamans is divination. Along with the mechanism of the 260-day count is the casting of certain red seeds or maize kernels, a practice deeply rooted in

the pre-Spanish past. ... Shamans conduct rituals for both individuals and the whole community” (p. 292).

Book of Mormon correspondence: See 1 Nephi 3:11; Alma 16:5-6; Helaman 11:12-17.

Analysis of correspondence: The correspondence is specific in that God is consulted through his representatives regarding drought and other problems affecting both individuals and the community. Casting of lots (or seeds) is mentioned. This practice is also mentioned in the Bible (for example, Saul and the witch of Endor), so we will not count it as unusual. It is specific and at least somewhat detailed. Likelihood = 0.1.

3.18 Calendars kept by holy men/priests

Coe's standard: “The 260 day calendar ... still survives in unchanged form among some indigenous peoples in southern Mexico and the Maya highlands, under the care of calendar priests” (p. 64). “For some reason, the calendar priests active in Highland Guatemala today are almost undetectable in earlier times. ... But similar figures must have existed.” “Later Maya priests’ ... list of duties [included] ... ‘computation of the years, months and days’” (p. 243).

Book of Mormon correspondence: See 3 Nephi 8:1-5. A “just man” who “did many miracles” was responsible for the reckoning of time among the people.

Analysis of correspondence: In the Book of Mormon the reference is specific but not very detailed. It does seem unusual. In the (highly) unlikely event that Joseph knew of the origin of the Gregorian calendar (instituted by Pope Gregory XIII), he might also have known of the Julian calendar (instituted by Julius Caesar). How would he have chosen correctly between a calendar instituted by priests or by civil authorities? So we count this one specific and unusual but not detailed. Likelihood = 0.1.

3.19 Virtuous persons “confess”

Coe's standard: “Humans existed within a larger set of expectations. The virtuous person was *toj*, ‘right’ and ‘straight,’ at times a literal term that Colonial Mayan languages tied to cleaning, confession, and prophecy” (p. 242).

Book of Mormon correspondence: See Mosiah 26:29; Alma 17:4; Helaman 5:17.

Analysis of correspondence: Both *The Maya* and the Book of Mormon clearly tie confession with becoming a virtuous person, becoming clean. Confession also exists within a larger set of expectations (for example, baptism in the Book of Mormon). So the correspondence is specific and detailed. The correspondence also seems unusual. While confession is a prominent part of the Roman Catholic faith, it was not prominent in any Protestant tradition in frontier America in the early 1800s. It was various forms of Protestantism

that Joseph Smith was familiar with. How did he “guess” correctly to include confession as an important duty among repentant, virtuous persons? How did he know that some of the ancient Mesoamericans would view confession in much the same light? Likelihood = 0.02.

Calculation of overall religious correspondences

There are 19 separate religious correspondences between the Book of Mormon and *The Maya*. Of these, two have a likelihood of 0.5, eight have a likelihood of 0.1, and nine have a likelihood of 0.02. Thus the overall likelihood of these 19 positive correspondences is $0.5^2 \times 0.1^8 \times 0.02^9 = 1.28 \times 10^{-24}$.

4. Military Correspondences

4.1 Extreme cruelty to enemy captives

Coe's standard: “the opposite of refinement in an unmistakable dehumanization of reviled enemies, a delight in their pain and dishonor” (p. 96). “The Leiden Plaque, which once dangled from a ruler’s belt, has engraved on one face a richly ornamented Maya lord . . . trampling underfoot a sorry-looking captive, a theme repeated on so many Maya stelae of later times” (pp. 98–99). “miserable prisoners have been stripped, and are having the nails torn from their fingers or their hands lacerated. An important captive sprawls on the steps, perhaps tortured to exhaustion, and a severed head lies nearby on a bed of leaves. A naked figure seated on the platform summit pleads for his life to the central figure, Yajaw Kan Muwaan” (p. 150).

Book of Mormon correspondence: See Moroni 9:8–10.

Analysis of correspondence: The correspondence is specific in both books, and the details are similar in the sense of torture to death and extreme, even inhumane, cruelty. Some Indian tribes may have done similar things, but not all tribes did it at all times to all captives, and some tribes adopted white children. The Revolutionary War was not marked with this kind of behavior on either side. So we think it is specific, detailed but only somewhat unusual. To be conservative, we assign this one a likelihood = 0.1.

4.2 Defensive earthworks with deep ditches, breastworks and palisades

Coe's standard: “Becan . . . was completely surrounded by massive defensive earthworks sometime between the second and fourth centuries AD. These consist of a ditch and inner rampart, 38 ft (11.6 m) high, and would have been formidable, according to David Webster, if the rampart had been surmounted by a palisade” (p. 122). “Warfare had in fact become a real problem to all the major Petexbatun sites, and a system of defensive walls . . . topped by wooden palisades was constructed around and within them” (p. 151).

Book of Mormon correspondence: See Alma 49:4, 18-22; Alma 50:1-5; Alma 53:4.

Analysis of correspondence: The correspondence is specific, it matches perfectly in the details, and it is highly unusual. What military example had Joseph Smith ever heard of or seen that was anything like this defensive arrangement? According to David Webster, the Conquistador Hernan Cortes marveled when he saw the Maya towns defended in *exactly* this fashion (details below). We would like to give this correspondence a weighting of a million to one against the likelihood that Joseph Smith guessed it, but our data weighting approach does not permit a likelihood of 0.000001; instead it is likelihood = 0.02.

For those who are interested, here are some additional details from Dr. Webster's work that show how exactly Joseph "guessed" this correspondence, and how amazed Cortes was:

Conquistador Hernan Cortes described fortified cities in the Maya lowlands, as quoted by Dr. David Webster of Pennsylvania State University. Here is Cortes's description of the defenses he encountered among the Lowland Maya: "There is only one level entrance, the whole town being surrounded by a deep (dry) moat behind which is a wooden palisade as high as man's breast. Behind this palisade lies a wall of very heavy boards, some twelve feet tall, with embrasures through which to shoot their arrows; the lookout posts rise another eight feet above the wall, which likewise has large towers with many stones to hurl down on the enemy. ... Indeed, it was so well planned with regard to the manner of weapons they use, they could not be better defended"³⁷

Dr. Webster also wrote another relevant, interesting study. Here are some of Dr. Webster's findings from his study regarding the dry moat or defensive ditch that surrounded the city of Becan, in the Yucatan Peninsula of southeastern Mexico: "The ditch and parapet derive their main defensive strength from sheer size. What I call the 'critical depth' of the fortifications (the vertical distance from the top of the embankment to the bottom of the ditch would have averaged something over 11 meters (about 36 feet). ... The steep angles of the inner ditch and wall and parapet slope could not have been climbed without the aid of ladders; an enemy force caught in the bottom of the ditch would have been at the mercy of the defenders, whose most effective weapon under the circumstances would have been large rocks. ... To throw 'uphill' from the outside is almost impossible. Defenders

37. David Webster, "The Not So Peaceful People: A Review of Maya War," *Journal of World Prehistory* 14, no. 1 (March 2000): 80.

...could have rained long-distance missiles on approaching enemies using spear throwers and slings.”³⁸

Thus the Maya at the time of the Spanish Conquest used the same kind of city defense that Moroni had used about 1600 years earlier, namely (1) a single entrance to the city, (2) very deep ditches around the city, (3) banks of earth built above the ditches, (4) strong works of timbers built on top of these banks of earth above ditches, and (5) even taller towers built on the timbers. From these works of timbers and from the towers, the defenders could rain down arrows and especially rocks (a cheap but effective weapon), on their attackers. And the attackers couldn't effectively get at the defenders — so they were slaughtered.

So Joseph Smith was either a military genius himself, or he guessed it. Yes, he guessed it in all this detail. A 24-year-old farm kid from upstate New York invented this superb defensive military arrangement, totally unlike anything in the warfare of his time, and which greatly impressed an experienced soldier like Hernan Cortes.

4.3 Walled cities, especially during wartime

Coe's standard: “When city walls are found, as at Dos Pilas, Ek' Balam, and Uxmal, they seem to date to the final years of the Classic period, when, in places, local conditions became hostile” (p. 126). “The triple defensive wall that surrounds the site indicates that conditions in this remote part of the Maya lowlands were dangerously unsettled in the Terminal Classic” (p. 194). “Mayapan ... is a residential metropolis covering about 2.5 sq. miles (6.5 sq. km) and completely surrounded by a defensive wall” (p. 216).

Book of Mormon correspondence: See Mosiah 9:8; Helaman 1:21; Helaman 13:4.

Analysis of correspondence: The correspondence is specific, and is detailed in the sense that the walls seem to appear mostly in time of war. However, Coe does not see much evidence for the presence of walls until the late Classic, and since *View of the Hebrews* also refers to walled towns, we rate this one as merely specific. Likelihood = 0.5.

4.4 Thick clothing used as armor

Coe's standard: “Left arms were protected by quilted padding” (p. 201). “[This is how] Maya warfare was waged. The *holkanob*, or “braves,” were the foot soldiers; they wore cuirasses of quilted cotton or tapir hide” (p. 236).

Book of Mormon correspondence: See Alma 43:19.

38. David Webster, *Defensive Earthworks at Becan, Campeche, Mexico: Implications for Maya Warfare* (New Orleans: Middle American Research Institute, Tulane University, 1976), 95-96.

Analysis of correspondence: The correspondence is both specific and detailed. In both *The Maya* and the Book of Mormon, thick clothing was used as armor. It is also unusual. We know of no contemporary model or example that Joseph Smith could have relied upon to correctly “guess” this correspondence. Even today we doubt that one person in a hundred would know that ancient Mesoamerican warriors wore heavy cotton clothing as armor. The likelihood is therefore = 0.02.

4.5 Fighting with “darts”

Coe’s standard: “Taneko found 217 projectile points ... [that] had been used on darts propelled by atlatsl, — mute testimony to a final battle sealing the city’s death” (p. 175). “the Toltec warrior, ... carrying a feather-decorated atlatl in one hand and a bunch of darts in the other” (p. 201) “... carried ... darts-with-spearthrower. ... [The infantry] rained darts, arrows, and stones flung from slings” (p. 236).

Book of Mormon correspondence: See Jarom 1:8.

Analysis of correspondence: The Book of Mormon and *The Maya* specifically contrast fighting with bows and arrows or spears as being different from fighting with “darts.” What experience or knowledge did Joseph Smith have of fighting with darts? How many educated people, even today, would know about fighting with a “dart-thrower” or *atlatl*? So this correspondence is specific, detailed and unusual. Likelihood = 0.02.

4.6 Endemic, internecine warfare destroyed the societies

Coe’s standard: “there might have been fierce internecine warfare or perhaps even a popular revolt” (p. 116). “But most Maya archaeologists now agree that three factors were paramount in the downfall: endemic internecine warfare” (p. 175). “The Maya were obsessed with war. The *Annals of the Kaqchikels* and the *Popol Vuh* speak of little but intertribal conflict among the highlanders, while the 16 states of Yucatan were constantly battling with each other over boundaries and lineage honor” (p. 236).

Book of Mormon correspondence: See, among others, Omni 1:10; Alma 62:39; Mormon 8:8.

Analysis of correspondence: With a few blessed exceptions, the Book of Mormon describes continuing war and conflict both between and among the Nephites and Lamanites, a conflict that ultimately results in the destruction of both groups. When the Book of Mormon brings down the curtain, the Lamanites are at war with each other, and “no one knoweth the end of the war.” This is in fact “endemic, internecine warfare,” the very words used by Coe. There was no contemporary example or model that Joseph Smith could use to “guess” a 1,000-year-long conflict that finally destroyed all the parties involved, so the correspondence is also specific, detailed and unusual. Likelihood = 0.02.

4.7 Warfare with ambushes and traps

Coe's standard: "Nor did the Maya fight in the accepted fashion. Attacking the Spaniards at night, plotting ambushes and traps, they were jungle guerrillas" (p. 227).

Book of Mormon correspondence: See the whole of chapters 43 and 52 of Alma.

Analysis of correspondence: The correspondence is specific and features some detail in both books, especially in the Book of Mormon (in keeping with the fact that the principal editor of the Book of Mormon was the commander of the armies of his people during nearly his entire adult life). But it is not unusual. The Indians of North America were also masters of ambush, and Joseph would have known this. There is also probably not enough detail in *The Maya* to upgrade the correspondence to specific and detailed. Specific only. Likelihood = 0.5.

4.8 Raids to take captives/slaves

Coe's standard: "Hostilities typically began with an unannounced guerrilla raid into the enemy camp to take captives. ... Lesser captives ended up as slaves" (p. 236).

Book of Mormon correspondence: See Alma 16:3-4; Alma 60:17; Helaman 11:33.

Analysis of correspondence: The correspondence is specific and detailed in both books. However, it is not unusual. Indians also raided the whites and each other to take captives/slaves. Joseph Smith would likely have known of this practice. Likelihood = 0.1.

4.9 Warriors dressing to inspire fear

Coe's standard: "Teotihuacan fighting men were armed with *atlatl*-propelled darts and rectangular shields, and bore round, decorated, pyrite mosaic mirrors on their backs; with their eyes sometimes partly hidden by white shell 'goggles,' and their feather headdresses, they must have been terrifying figures to their opponents" (pp. 99-100).

Book of Mormon correspondence: See 3 Nephi 4:7.

Analysis of correspondence: The correspondence is specific. In both books warriors sometimes dressed to inspire fear in their opponents. But the details do not line up very well, and this is probably not unusual. Indian warriors, for example, used war paint in part to inspire fear. So this correspondence is rated specific only. Likelihood = 0.5.

4.10 Stones and slings used as weapons for fighting

Coe's standard: "On either side of the war, leaders and the idols carried into combat under the care of priests [who] flanked the infantry, from which rained darts, arrows, and stones flung from slings" (p. 236).

Book of Mormon correspondence: See Alma 17:36.

Analysis of correspondence: The correspondence is certainly specific and detailed enough. Stones slung from slings were used to kill opponents. It also seems unusual. While Joseph Smith could have gotten the idea from the Bible, why would he correctly “guess” that some of the ancestors of the Indians fought with stones and slings? The Indians of northeastern North America, of whom he did know something, did not fight with stones and slings. Specific, detailed and unusual. Likelihood = 0.02.

4.11 Cannibalism practiced on captives

Coe’s standard: “In general, only captive lords were considered fit for sacrifice, or for consumption in cannibalistic rites” (p. 225).

Book of Mormon correspondence: See Moroni 9:10.

Analysis of correspondence: The practice is detailed enough and certainly specific in both books. However, it probably does not qualify as unusual. Joseph Smith may have heard of the ritual cannibalism practiced by the Iroquois. Likelihood = 0.1.

4.12 Deliberate destruction of the records/monuments

Coe’s standard: “By c. 1150 BC, San Lorenzo was destroyed by an unknown hand, and its monuments mutilated and smashed” (pp. 52–54). “There are signs of widespread, purposeful mutilation of public monuments” (p. 116). “Other cities in the Central Area eventually fell victim to the same cycle of violence, characterized by the systematic mutilation and smashing of stone monuments — the eyes and mouths of rulers are often pecked out, as if to cancel their power” (p. 175).

Book of Mormon correspondence: See Enos 1:13–14; Alma 14:8; Mormon 2:17.

Analysis of correspondence: The correspondence is certainly specific, but the details as practiced among the Maya seem to be directed toward stone objects, while in the Book of Mormon the intended destruction was directed toward the scriptures, both the metal plates and the combustible scriptures, as in Alma 14:8. The practice seems unusual. What accessible written source or contemporary practice would Joseph Smith have known about in which the monuments of enemies were deliberately destroyed? We do not think this merits a likelihood of 0.02, but it does merit evidentiary strength greater than merely specific. Likelihood = 0.1.

Calculation of overall likelihood of military correspondences

There are twelve distinct, separate military correspondences between the Book of Mormon and *The Maya*. Of these, three have a likelihood of 0.5, five a likelihood of 0.1, and four a likelihood of 0.02. Thus the overall likelihood of these twelve positive correspondences is $0.5^3 \times 0.1^5 \times 0.02^4 = 2.0 \times 10^{-13}$.

5. Physical and Geographical Correspondences

5.1 Highlands and lowlands exist within the relevant geography

Coe's standard: "While there are profound differences between the subsistence base of the lowlands and that of the highlands (p. 13), ... there are really two natural settings in the land of the Maya: highlands and lowlands" (p. 14).

Book of Mormon correspondence: See Omni 1:13; Mosiah 9:3; Mosiah 28:1; Alma 27:5.

Analysis of correspondence: Dr. Coe's book repeatedly emphasizes the importance of highland and lowland populations of Native American peoples in Mesoamerica. The Book of Mormon also repeatedly uses the words "go up" and "go down" in reference to moving geographically in the book. From its very beginning, the Book of Mormon likewise employs going "up" and going "down" to movements to and from Jerusalem, which sits at a higher elevation than most of the surrounding geography. Thus we have strong reason to believe that that phrase means to ascend or descend in elevation. The correspondence is specific and quite detailed in both books, but it is not particularly unusual. Likelihood = 0.1.

5.2. Accurate description of a volcanic eruption

Coe's standard: "The Maya highlands by definition lie above 1,000 ft. (305 m) and are dominated by a great backbone of both extinct and active volcanoes" (p. 14). "They and their relatives, the Tz'utujil, live in villages along the shores of the volcano-girt Lake Atitlan" (p. 28). "On an ill-fated day around AD 595, the nearby Loma Caldera volcano erupted, spewing out steam, ash, and eventually volcanic bombs that rained down on the [village of Ceren]" (p. 107).

Book of Mormon correspondence: See 3 Nephi 8:5-23.

Analysis of the correspondence: The account in 3 Nephi is an obvious eyewitness account of a volcanic eruption, with associated earthquakes, terrible storms and lightning, and thick, choking, nearly unbreathable air. This account is highly detailed as well as unusual. Joseph Smith and his contemporaries knew nothing of what it was like to experience a volcanic eruption, nor did they have any published accounts to draw upon. *View of the Hebrews* mentions volcanoes in Mesoamerica, but says nothing at all about what an eruption is like. This correspondence is therefore specific, detailed and highly unusual. Likelihood = 0.02.

5.3 Periods of terrible drought separated by decades or centuries with resulting famines

Coe's standard: "Nor are these rains reliable; in bad years there may be severe droughts" (p. 17). "It is small wonder that the early Colonial chronicles

speaking much of famines in Yucatan before the arrival of the Spaniards” (p. 19). “Cave deposits show ... a similar pattern of droughts that lasted for decades. One episode struck between AD 200 and 300, another from AD 820 to 870, then two more at AD 1020 to 1100 and AD 1530 to 1580. Shorter, severe droughts occurred at AD 420, 930, and 1800. ... The most dramatic discovery is the drought from AD 820 to 870. ... This period saw the collapse of Maya civilization in the southern Maya lowlands” (p. 32).

Book of Mormon correspondence: See Alma 9:22; Helaman 11:5-7; Ether 9:30, 35.

Analysis of correspondence: The correspondence is specific and detailed in both books. It is also probably unusual. Joseph Smith lived in well-watered country at latitudes that don't usually experience droughts. Smith could have learned about famines from the Bible, but he would not have known, as attested in both *The Maya* and the Book of Mormon, that such terrible droughts can last many years, even decades, and that different periods of drought can be and are separated by centuries. Specific, detailed and unusual. Likelihood = 0.02.

5.4 Venomous, aggressive snakes present

Coe's standard: “Also lurking in *milpa* and jungle, and to be avoided at all costs, were vipers such as the dreaded *barba amarilla*, or ‘yellow jaw’ (*Bothrops asper*), among the most aggressive snakes in the world” (p. 19).

Book of Mormon correspondence: See Mormon 8:24; Ether 9:31.

Analysis of correspondence: The correspondence is specific and detailed. Poisonous snakes certainly existed. (No problem: the Book of Mormon doesn't claim to take place in Ireland.) While there are not many venomous snakes in New York, there are a few such species. The unusual part of this correspondence is that there was at least one very aggressive venomous snake. Most snakes, even poisonous ones, will flee from humans. They just aren't aggressive. But not so the snakes described in Ether 9:31 or the *barba amarilla* described by Dr. Coe. So the correspondence is specific, detailed and unusual. Likelihood = 0.02.

5.5 Easy to get lost, very thick wilderness, cities hidden in the wilderness

Coe's standard: “lost and starving among the swampy *bajos* and thorny forests of northern Guatemala” (p. 139). “The forests of southern Campeche and Quintana Roo form the wildest part of the Maya region” (p. 161). “Safe in the fastness of an almost impenetrable wilderness, their island stronghold was bypassed by history” (p. 219).

Book of Mormon correspondence: See Mosiah 7:4-5; Mosiah 8:8; Mosiah 21:25; Mosiah 22:16; Mosiah 23:20, 30, 36.

Analysis of correspondence: Both the Book of Mormon and *The Maya* are specific and detailed on this point. In fact, the Book of Mormon refers to wilderness a total of 212 times. There was very thick wilderness immediately adjacent to settled areas in which it was possible to get completely lost, even if ancestors had been in the region for centuries. The Book of Mormon and *The Maya* also speak of what amount to lost cities. The city of Helam was literally bumped into by a Lamanite army as they pursued the people of Limhi. That same army had to be shown the way that led to the land/city of Nephi — they did not know how to get there on their own. How would Joseph Smith have known to put in this unusual, but correct detail? What did he or anyone in his community (from whom he might have learned it) know of lost cities and almost impenetrable wilderness? The American wilderness in which Joseph lived was sometimes thick but by no means impenetrable. Likelihood = 0.02.

5.6 Powerful, ancient central city and culture in the highlands

Coe's standard: "A Late Preclassic rival to Izapa in size and number of temple mounds and in the splendor of its carved monuments was Kaminaljuyu during the Verbena and Arenal phases, dating from c. 100 BC to AD 150. This ... was once a major ceremonial site on the western outskirts of Guatemala City. Many of the approximately 200 mounds once to be found there were probably constructed at this time; Kaminaljuyu's rulers must have possessed formidable economic and political power over much of the Maya highlands at this time" (p. 73).

Book of Mormon correspondence: See Mosiah 7:1-4; Mosiah 9:6, 8; Alma 47:20.

Analysis of correspondence: The time period 100 BC to AD 150 fits very well with the time of the dominance and power of the city of Lehi-Nephi, or city of Nephi (land of Nephi) in the highlands. This was the principal city of the Lamanites in the time periods just before and just after Christ. So the correspondence is specific and detailed. The exactness of the time, location and dominance of the city taken as a whole are unusual. Likelihood = 0.02.

5.7 Earthquakes present and important

Coe's standard: "As the lake dried up, ... perhaps due to exploitation of the land, or even to tectonic movements (the region is highly earthquake-prone), the city [Kaminaljuyu] dwindled" (p. 74). "The Aztecs ... thought that the universe had passed through four such ages, and that we were now in the fifth, which would be destroyed by earthquakes" (p. 249). "The Zinacanteco world ... rests on the shoulders of the *Vaxak-Men*, the four-corner gods; when one of these shifts his burden, there is an earthquake" (pp. 292-93).

Book of Mormon correspondence: See Helaman 5:27, 31-32; 3 Nephi 8:6, 9-18.

Analysis of correspondence: The Book of Mormon and *The Maya* are specific and quite detailed about the "shaking of the earth." Earthquakes

play a significant role in both books. Since Joseph may have heard about earthquakes, even if he had probably not experienced one, we would not count this correspondence as unusual except for one thing: on two separate occasions the Book of Mormon refers to a particular prison in the land of Nephi as being shaken violently, one time even to the point of collapsing. We believe the evidence in the Book of Mormon and *The Maya* support the general area of Kaminaljuyu as the land of Nephi, and Dr. Coe specifically calls out this region as “highly earthquake-prone.” What a lucky “guess” on Joseph Smith’s part. Specific, detailed and unusual. Likelihood = 0.02.

5.8 Deforestation of large areas

Coe’s standard: “The botanists conclude, with one caveat, that the Tikal Maya had largely demolished the tall monsoon forest by the 740s” (p. 176).

Book of Mormon correspondence: See Helaman 3:5-7.

Analysis of correspondence: In both books, the inhabitants of the land had rendered it without timber. This correspondence is therefore specific and detailed, but it is not unusual. Joseph Smith and everyone around him were also busy deforesting the land. Likelihood = 0.1.

5.9 Areas set aside for forest regrowth and/or timber shipped in from a distance

Coe’s standard: “In AD 810, sapodilla was again the species of choice, but beam widths were far smaller than they had once been. Apparently Tikal’s rulers had set aside protected groves of their favorite tree or managed to import it from some distance” (p. 176).

Book of Mormon correspondence: See Helaman 3:9-11.

Analysis of correspondence: The correspondence is specific and detailed. In both books, areas were set aside for forest regrowth, and timber was also shipped in for building cities such as Tikal. The correspondence is also unusual. There was no contemporary model for Joseph Smith to follow whereby forests were purposely replanted. Likelihood = 0.02.

5.10 Precious stones exist (but they are not diamonds, rubies, and pearls)

Coe’s standard: “The volcanic highlands ... yielded obsidian — natural volcanic glass. ... Obsidian was to ancient Mesoamerica what steel is to modern civilization. It was turned into knives, lance and dart points, ... and a host of other tools” (p. 23). “Jade was surely the compelling reason for this intrusion of the Olmec [into the Copan valley]. The Classic Maya obtained their green and often dull-colored jade from alluvial deposits [in Copan], ... but this was not the distinctive blue-green jade so prized by the Olmec. The mystery of where the Olmec obtained this material has at long last been solved by the discovery in 2001 of several sources in the Sierra de las Minas,

far above the Motagua. ... Control of both the Motagua and Copan valleys would have given the Olmec a virtual monopoly of a material that was as important to this primordial civilization as gold was to be for the Spanish *conquistadores*" (p. 60). " ... They went from modestly dressed chieftains to true kings endowed with fine clothing and jade or turquoise regalia." (p. 83). "It is natural that the Maya lavished upon jade, the most precious substance known to them, their full artistry" (p. 171). "Not only jade, but also calcite was worked by the lowland Maya lapidaries; but it must have been a rare substance, for objects made from it are found infrequently" (p. 171). "But other items also moved along these trade networks; the excavators encountered obsidian from the mines in central Mexico, turquoise which had probably originated in the American Southwest (a luxury item prized by the Toltecs and their cultural heirs the Aztecs), and gold from lower Central America" (p. 215).

Book of Mormon correspondence: See Alma 17:14.

Analysis of correspondence: Bruce Dale, the son of a mining engineer, grew up in mining towns in Nevada and Arizona, and was an avid rock hound in his youth. For him, this is a particularly powerful correspondence. Both the Maya and the Book of Mormon people had precious stones, which represented great riches to them (Alma 17:14). So this correspondence is specific.

It is also unusual in the details *not* given in the Book of Mormon. If Joseph Smith "guessed" the Book of Mormon, he would very probably have guessed "precious stones" to be the only precious stones he knew of, namely diamonds, rubies, and perhaps pearls. But Mesoamerica has no rubies at all, nor does it have any significant diamond resources. (Mexico has a few small, inferior diamonds, but no diamond mines.) Joseph Smith would not have "guessed" the precious stones to be jade, obsidian, turquoise or calcite. Nor would the names of those stones have meant anything to all but a very small fraction of those who read the Book of Mormon. (*Cureloms* and *cumoms*, anyone?) But Joseph Smith made neither mistake. He (or rather the Book of Mormon authors) simply called them, quite accurately, "precious stones." We rate this likelihood = 0.02.

5.11 Submerged cities

Coe's standard: "Lake Amatitlan, a place known for elaborate, aquatic deposits of Early Classic incense burners" (p. 103).

Book of Mormon correspondence: See 3 Nephi 8:14; 3 Nephi 9:4, 6, 8; 4 Nephi 1:9.

Analysis of correspondence: Since incense burners are made to burn incense, and don't work well under water, the conclusion is pretty clear. These incense burners were submerged when the waters of the lake rose to engulf

them. (Both Lake Amatitlan and Lake Atitlan cover sunken cities.) So the correspondence is specific and detailed in both books.

How about unusual? However unlikely, Joseph Smith may have known of the story of Atlantis, but why would he “guess” that story would apply to some of the ancestors of the Indians? And Atlantis was engulfed by the ocean, not by freshwater lakes. We think this correspondence is more than specific and detailed, but somewhat less than unusual. To be conservative we assign likelihood = 0.1.

5.12 Perishable writing materials

Coe’s standard: “None of these bark-paper books hav[e] survived except in the most fragmentary form in tombs” (p. 141). “There must have been many thousands of Classic Maya books written on bark-paper, but not a single one has come down to us” (pp. 171, 173).

Book of Mormon correspondence: See Jacob 4:1-2; Alma 14:8; Helaman 3:15.

Analysis of correspondence: Specific and detailed. Both *The Maya* and the Book of Mormon speak of many books. These books were kept on materials that either decay or can be burned. The only thing that lasts is words written on metal plates. The correspondence is not unusual. The paper books and documents in Joseph Smith’s day would also burn or decay. Likelihood = 0.1.

5.13 Refined gold present

Coe’s standard: “there were no sources of gold and silver in the Maya lowlands” (p. 22). “the richest array of offerings, ... including ... a gold frog (possibly an import from Panama, and one of the earliest-attested metal objects yet discovered for the Maya)” (p. 194-95). “dredged from the muck at the bottom of the Cenote, ... the gold disks already mentioned ... The local lords brought treasures of gold from places as far afield as Panama to offer to the Cenote” (p. 212). “But other items also moved along these trade networks; the excavators encountered ... gold from lower Central America” (p. 215).

Book of Mormon correspondence: See Jacob 1:16; Ether 10:23; Alma 11.

Analysis of correspondence: Coe resists the idea that the lowland Maya had much refined gold before about AD 800, well after the Book of Mormon times. But the Book of Mormon does not claim to be set among the lowland Maya, so this is irrelevant. There clearly was refined gold present in both books, even if the lowland Maya had to import their gold from Central America. So the correspondence is specific, but it is not detailed nor unusual. Joseph Smith may well have heard of the treasures of gold plundered by the Spaniards. Likelihood = 0.5.

Calculation of physical and geographical correspondences

There are 13 distinct physical and geographical correspondences between the Book of Mormon and *The Maya*. Of these, one has a likelihood of 0.5, four have a likelihood of 0.1 and eight have a likelihood of 0.02. Thus the overall likelihood of these 13 positive correspondences, taken together, is $0.5^1 \times 0.1^4 \times 0.02^8 = 1.28 \times 10^{-18}$.

6. Technological and Miscellaneous Correspondences

6.1 Millions of inhabitants in the area

Coe's standard: "One view perceives as many as eight to ten million people in the lowlands c. AD 800; David Webster of Pennsylvania State University would go as low as two to three million" (p. 22). "But what happened to the bulk of the population who once occupied the Central Area, apparently in the millions?" (p. 177). "What this might mean is that we may have to double our previous population estimates for the Central Area, which already run into the many millions" (p. 176).

Book of Mormon correspondence: See Mormon 6:11-15; Ether 15:2.

Analysis of correspondence: Both the Book of Mormon and *The Maya* affirm that the populations were large, specifically in the neighborhood of 10 million people. In 1830, the U. S. census gave a population of about 13 million. Thus Joseph Smith correctly "guessed" that his fictional group of Indians was nearly as large as the entire population of the United States at the time the Book of Mormon was published. Certainly this is unusual. What Indian population had Joseph Smith ever seen that was anywhere near this large? Likelihood = 0.02.

6.2 Calendar kept by day, month and year

Coe's standard: "The Maya Long Count, which will be explained in greater detail in Chapters 3 and 9, is an absolute, day-to-day calendar which has run like some great clock from a point in the mythical past (p. 25). "The Maya New Year started with 1 Pop, the next day being 2 Pop, etc. The final day of the month, however, carried not the coefficient 20, but a sign indicating the 'seating' of the month to follow" (p. 64). "Maya learning as well as ritual was in their [the Maya priests'] hands. Among them were 'computation of the years, months, and days, the festivals and ceremonies'" (p. 243).

Book of Mormon correspondence: See Alma 10:6; Alma 49:1; 3 Nephi 1:1; 3 Nephi 2:7-8; 3 Nephi 8:5.

Analysis of correspondence: Specific and detailed. Both the Book of Mormon peoples and the peoples described in *The Maya* kept calendars by day, month and year. The keeping of calendars is also unusual. The Indian peoples of eastern North America did not keep calendars at all, and were aware only of

the passing of the seasons. How did Joseph Smith “guess” that any Indians kept an absolute calendar by day, month and year? Likelihood = 0.02.

6.3 Multiple calendars kept

Coe’s standard: “Meshing with the 260-day count is a ‘Vague Year’ or *Ha’b* of 365 days, so called because the actual length of the solar year is about a quarter-day more. ... Although the Maya were perfectly aware that the *Ha’b* was shorter than the tropical year, they did not change the calendar accordingly. ... From this it follows that a particular day in the 260-day count, such as 1 K’an, also had a position in the *Ha’b*, for instance 2 Pop. A day designated as 1 K’an 2 Pop could not return until 52 *Ha’b* (18,980 days) had passed. This is the Calendar Round” (pp. 64–65).

Book of Mormon correspondence: See 3 Nephi 1:1; 3 Nephi 2:7–8.

Analysis of correspondence: The correspondence is specific and detailed. Not only were multiple calendars kept, both *The Maya* and the Book of Mormon describe exactly *how* they were kept. If the keeping of one calendar is unusual, then keeping several different calendars is even more unusual. We would like to give this a higher weighting than 0.02 (1 in a million?), but cannot by the constraints we have imposed on ourselves. Likelihood = 0.02.

6.4 Bee keeping, domesticated bees, honey

Coe’s standard: “And it might be that the province [Yucatan] relied less upon plant husbandry than upon its famed production of honey, salt, and slaves” (p. 19). “As he still does today, the Maya farmer raised the native stingless bees, which are kept in small, hollow logs closed with mud plaster at either end and stacked up in A-frames, but wild honey was also much appreciated” (p. 231). “A few depictions of vessels marked with the term *kab*, ‘honey,’ ... Valuable Yucatan exports were honey, cotton mantles and slaves” (p. 232).

Book of Mormon correspondence: See Ether 2:3.

Analysis of correspondence: The Jaredites specifically brought with them honeybees, so they had domesticated the bee. The correspondence is specific, but it is not detailed nor unusual. Bees were domesticated many thousands of years ago. Coe makes much of the fact that Maya domestic bees are stingless, versus the Old World bees of genus *Apis*. But the Book of Mormon does not say that the Jaredites did not switch over to keeping native stingless bees when they arrived in the New World (we two authors would surely have done so!), so Coe’s point seems irrelevant to the issue. Both *The Maya* and the Book of Mormon specifically note domesticated bees, and this correspondence is also unusual. What Indian tribes did Joseph Smith know of that practiced beekeeping? There were none. How did he “guess” this one correctly? Likelihood = 0.1.

6.5 Art including carving, painting, dancing, metalwork, music

Coe's standard: “more advanced cultural traits ... and the painting of murals” (p. 26). “In one tomb, over 300 objects of the most beautiful workmanship were placed with the body” (p. 76). “They went from modestly dressed chieftains to true kings endowed [in] ... jade or turquoise regalia” (p. 83). “[This] extraordinarily well-preserved fresco ... is in fact the earliest Maya painting known, dating to c. 100 BC or slightly earlier. In its beauty and sophistication it equals the famous Late Classic murals of Bonampak” (p. 87). “The finest Maya wood carving known, this seated figure from Tabasco, Mexico, represents a courtier” (p. 95n40), ... including some marvelously fine jades and the gold disks already mentioned. [Metals] had now appeared in the Maya area, although they were probably cast and worked elsewhere and imported. The many copper bells and other objects from the well were of Mexican workmanship. The local lords brought treasures of gold from places as far afield as Panama to offer to the Cenote” (p. 212). “Santa Rita also yielded an extraordinary set of ear ornaments in gold and turquoise” (p. 219). “Plazas were the location for most dances. The stelae that now fill some of them petrify kings in perpetual dance, as we can tell by their pose, dress, and explanatory glyphs” (p. 256).

Book of Mormon correspondence: See Jarom 1:8; Helaman 6:13; Helaman 12:2; Mosiah 11:8-10, Mosiah 20:1-5:4 Nephi 1:41.

Analysis of correspondence: The correspondence is specific and in many cases detailed. Both the Book of Mormon and *The Maya* speak of art expressed in a variety of materials, including wood and metals, people adorning themselves with precious things, and dance. The correspondence is unusual. What Indian tribes known to Joseph Smith did art work in wood and metal and had fine jewelry? However, to be conservative, since Dr. Coe reports no evidence for metal work in the Book of Mormon timeframe, we will discount this correspondence from specific, detailed and unusual to merely specific and detailed. Likelihood = 0.1.

6.6 Knowledge of the movement of the stars, planets and moon

Coe's standard: “Ancient Maya used lines of sight ... to plot the rising and setting positions of the sun, the moon, and, above all, the planet Venus. ... Maya astronomers had a remarkably accurate knowledge of the apparent motion of Venus” (p. 193). “Venus is the only one of the planets for which we can be absolutely sure the Maya made extensive calculations” (p. 262). “Some have questioned whether the movements of planets other than Venus were observed by the Maya, but it is hard to believe that one of the Dresden tables, listing multiples of 78, can be anything other than a table for Mars” (pp. 262-63).

Book of Mormon correspondence: See Omni 1:21; Alma 30:44; Helaman 12:13-15; Helaman 14:5-6; 3 Nephi 1:21.

Analysis of correspondence: Alma asserts that planets (not just one planet) “move in their regular form,” agreeing with Coe’s statement that the Maya knew the movements of Venus and Mars. For the Book of Mormon people to know that “a new star did appear,” they would have to know when and where the old stars would appear. So the correspondence is specific and detailed. It is also unusual. What Indian tribe of the American Northeast had any such detailed astronomical knowledge as that reported in *The Maya? Likelihood = 0.02*.

6.7 Writing is present, but its genealogy is complicated and poorly understood

Coe’s standard: “All the Mesoamerican Indians shared a number of traits which were more or less peculiar to them and absent or rare elsewhere in the New World: hieroglyphic writing” (p. 13). “The relation between Maya and Isthmian writing remains obscure. The earliest Maya writing ... comes from c. 300 BC, prior to Isthmian writing. ... The genealogy of Mesoamerican writing is therefore more complicated than formerly thought” (p. 68).

Book of Mormon correspondence: See 1 Nephi 6:1-3; Mosiah 24:6; 3 Nephi 26:6; Mormon 9:32-34.

Analysis of correspondence: The correspondence is specific and detailed. The Mesoamerican Indians (not just the Maya) had a rare or absent trait: they had writing. And so did the Book of Mormon peoples. Furthermore, the genealogy of their writing is complex. It is not clear how Mesoamerican writing arose, and the sacred written language of the Book of Mormon authors was known to them alone (Mormon 9:34). The correspondence is also unusual. None of the Indian tribes known to Joseph Smith had writing. Thus it was an extremely lucky (or foolhardy) “guess” on his part to have claimed in his “fictional” book that some American Indians did have writing. But he did claim it, and he was right. This correspondence also deserves a much smaller likelihood than a 1 in 50 chance, more like 1 in a million. But to be conservative, we assign a likelihood = 0.02.

6.8 Engraved writing on stone

Coe’s standard: Coe’s book is full of examples of writing on stone. Here are just a few: “A magnificent stela was found ... in southeastern Veracruz; two Bak’tun 8 dates corresponding respectively to AD 143 and 156 are inscribed on it. These are accompanied by a text of about 400 signs ... (the famous ‘Tuxtla Statuette,’ also found in southern Veracruz, is inscribed in the same script and dates to AD 162)” (p. 68). “It was not just the ‘stela cult’ — the inscribed glorification of royal lineages and their achievements” (p. 177).

Book of Mormon correspondence: Omni 1:20.

Analysis of correspondence: The Book of Mormon and *The Maya* both refer specifically to engraved writing on large stones. This is an unusual

correspondence. Writing by itself was unusual, to write on stone was doubly so. What example or model did Joseph Smith have to correctly “guess” this correspondence? However, the Book of Mormon gives only one example of writing on stone, so it is not detailed. Specific and unusual. Likelihood = 0.1.

6.9 Many books present, some were kept in repositories

Coe's standard: “Maya priests 2,000 miles away were still chanting rituals from hieroglyphic books” (p. 219). “Even more heartbreaking is the loss of thousands of books” (p. 237). “A few probable coffers exist for books, including the recent find of a lidded limestone box from Hun Nal Ye cave in Guatemala” (p. 239).

Book of Mormon correspondence: See Helaman 3:15; Mormon 6:6. The entire Book of Mormon is a collection of shorter books or excerpts from other books.

Analysis of correspondence: The correspondence is both specific and detailed. Many books, not just a few, were kept. And in at least some instances, the books were kept together in repositories, essentially in libraries (the “coffers” cited above). The practice is also unusual. What American Indian tribes that Joseph Smith knew of kept even one book, let alone libraries? How did he correctly “guess” this fact about the Maya and the Book of Mormon peoples? Likelihood = 0.02.

6.10 Trading in a variety of goods

Coe's standard: “All the Mesoamerican Indians shared a number of traits which were more or less peculiar to them and absent or rare elsewhere in the New World: ... highly specialized markets” (p. 13). “Trading networks brought vast quantities of these objects [*manos* and *metates*] down from ... Guatemala. ... The volcanic highlands yielded ... obsidian. ... Access to salt sources or to salt trade networks was critical to the growth and security of Maya states. ... The Maya elite had other special needs, above all jade, quetzal feathers, and marine shells” (pp. 22-23). “Its [Lamani’s] location and rich remains attest to its entrepreneurial importance in ancient Maya trade” (p. 85). “[control over] ... the movement of goods, which now passed into the hands of trading entrepreneurs or local petty lords” (p. 213).

Book of Mormon correspondence: See Mosiah 24:7; Helaman 3:10, 14; Helaman 6:8; 3 Nephi 6:11; Ether 10:22.

Analysis of correspondence: The correspondence is specific. Both the Book of Mormon peoples and the Mesoamerican Indians traded, a trait that was absent or rare elsewhere in the New World, and therefore unusual by definition. However, while trading in a variety of goods is strongly implied by the wording in the Book of Mormon, only trading in wood is specifically mentioned. So this correspondence is certainly specific and unusual, but

it is not detailed enough to count as specific, detailed and unusual. To be conservative, we assign a likelihood of 0.1.

6.11 Many merchants

Coe's standard: "These somewhat Mexicanized merchant-warriors controlled the great Gulf Coast entrepot of Xicallanco where Mexican and Maya traders met" (p. 178). "God M, who was the patron of merchants, is shown here" (p. 218n138). "Merchants had a privileged status" (p. 225). "At the top [of the class structure] were nobles, ... wealthy farmers and merchants" (p. 235).

Book of Mormon correspondence: See 3 Nephi 6:11-12.

Analysis of correspondence: Because this correspondence overlaps somewhat with correspondence 6.10, we will only count it as specific. However, the whole interlocking system of trading, merchants and wealth accumulation through trade is unusual in itself, and perhaps this correspondence deserves a higher weight. Nonetheless, to be conservative, likelihood = 0.5.

6.12 Roads and causeways built

Coe's standard: Coe makes many references to roads and causeways in different areas of Mesoamerica. Here are just a few. "There are two groups of monumental construction, connected by a massive causeway, and in fact a whole network of causeways radiates out from El Mirador across the surrounding swampy landscape" (p. 85). "Archaeologist Rodrigo Liendo Stuardo has even found evidence of road systems running along the base of those hills, connecting the far reaches of the Palenque kingdom" (p. 151). "A causeway ... runs southeast from Uxmal through the small site of Nohpat to Kabah" (p. 182).

Book of Mormon correspondence: See 3 Nephi 6:8; 3 Nephi 8:13.

Analysis of correspondence: Both *The Maya* and the Book of Mormon speak of many roads, not just a few; and the practice of road-building is widespread in both societies. So this correspondence is specific and detailed, and also definitely unusual. The Indians that Joseph Smith knew of did not build roads. However, *View of the Hebrews* very briefly mentions road building among the Indians. However unlikely, Joseph might have read about it there. To be conservative, this is rated as specific and detailed only. Likelihood = 0.1.

6.13 Houses with attached gardens

Coe's standard: "Also important were the house gardens, still ubiquitous in Maya villages and hamlets" (p. 22). "A few cities, such as Chunchucmil in Yucatan, are amazingly dense, with house lots demarcated by walls; others had extensive space for gardens" (p. 124).

Book of Mormon correspondence: See Helaman 7:10.

Analysis of correspondence: The correspondence is specific but not detailed in the case of the Book of Mormon. Strongly implied, but not stated, is a garden attached to Nephi's house. So we cannot call it detailed. Native Americans taught the Pilgrims what plants grew well in the New World, so gardening/domestic agriculture among the ancestors of the Indians cannot be called unusual. Specific only, likelihood = 0.5.

6.14 Foreigners/new rulers introduce/impose a new language/writing system on indigenous peoples

Coe's standard: "During the Terminal Classic, [Ceibal] seems to have come under the sway of foreigners, as seen in the strong influence of non-Maya forms of art and writing. ... There are more 'foreign'-looking stelae at Ceibal which belong to this period, with non-Maya calendrical glyphs and iconography; on one, a figure wears the bird-mask of the central Mexican wind god, Ehecatl, with a Mexican speech scroll curling from the beak. ... This, however, does not answer the question of the patently Mexican hieroglyphs on other Ceibal monuments" (p. 178).

Book of Mormon correspondence: See Omni 1:17–18; Mosiah 24:4–6.

Analysis of correspondence: Both *The Maya* and the Book of Mormon refer specifically and in considerable detail to foreigners who introduce a new language/writing system. This is certainly unusual. What models or examples did Joseph Smith have available to him that would have led him to "guess" correctly that foreigners would impose a new language and writing system on indigenous peoples? The European settlers in North America were not trying to impose a new language on the Native Americans, they were trying to take get rid of the Indians and take their lands. Likelihood = 0.02.

6.15 Writing system changed significantly over time

Coe's standard: "The earliest Maya writing, exceedingly difficult to decode, is quite different from its later versions" (p. 266).

Book of Mormon correspondence: Mormon 9:32–33.

Analysis of correspondence: The Book of Mormon and *The Maya* both refer specifically to a change in writing systems, but very few details are provided. The practice seems highly unusual. What change in written English did Joseph Smith know about? What could he use as a precedent or model? There was nothing. He might perhaps have known about significant changes in spoken English from the time, say, of Shakespeare, but not in the way of writing English. Specific and unusual. Likelihood = 0.1.

6.16 Buildings of cement

Coe's standard: "The Maya of the lowlands had discovered ... if limestone fragments were burnt, and the resulting powder mixed with water, a white plaster of great durability was created. Finally, they quickly realized the

structural value of a concrete-like fill made from limestone rubble and marl” (p. 81). Overall, there are 61 references to “stucco” in Coe’s book; stucco is a fine cement.

Book of Mormon correspondence: See Helaman 3:7, 9, 11.

Analysis of correspondence: Specific, detailed and unusual. Both wood and cement are mentioned as building materials in the Book of Mormon and in *The Maya*. While some Indians of northeastern North America did use wood to build their dwellings (for example, the Iroquois longhouses), they did not use cement, as did both the Maya and the Aztecs. How did Joseph Smith “guess” that one? Likelihood = 0.02.

By the way, cement results from burning limestone and mixing the resulting powder with water. Cement is used to bind all kinds of aggregates (stone, clay, etc.) to produce concrete. There is no justification for being picky about the details of hydraulic vs. nonhydraulic cements. Even experts disagree on what constitutes “true” cement.³⁹

6.17 Great skill in the working of cement (stucco)

Coe’s standard: “Holmul and Xultun, celebrated in recent years for their ... monumental stuccos ... and Ek’ Balam, an extraordinary site in Yucatan with ... some of the most astonishing stucco reliefs ever found” (p. 7). “Many of these were faced with elaborate stucco friezes and stairways flanked by massive stucco masks” (p. 81). “This young man is shown in a magnificent, polychrome stucco relief on a pilaster of Temple XIX” (p. 160).

Book of Mormon correspondence: See Helaman 3:7.

Analysis of correspondence: Not only were the Maya able to build with cement/stucco, they were “exceedingly expert” in working it, as explicitly described in both the Book of Mormon and *The Maya* (“astonishing,” “elaborate,” “magnificent” are the words used by Coe). This is certainly specific and detailed. It also is clearly unusual. The dominant view of the white settlers regarding the Indians in the early 1800s was that they were savages. How did the author of the Book of Mormon correctly “guess” that these “savages” could work so expertly in cement? Likelihood = 0.02.

6.18 Excellent workmanship practiced

Coe’s standard: “the finest Maya wood carving known, this seated figure from Tabasco, Mexico” (p. 95n40). “Finally, the Late Classic Maya were ... the only American Indians interested in rendering the uniqueness of individual characters through portraiture. The Maya artists excelled in low-relief carving. ... Pottery objects of Late Classic manufacture run the gamut

39. David S. Hyman, “Cements at Teotihuacan: A Criticism of Margain’s Appraisal,” *American Anthropologist* 75 (1973): 313-14, <https://anthrosource.onlinelibrary.wiley.com/doi/pdf/10.1525/aa.1973.75.1.02a00290>.

from crude ... pots and pans of everyday life to real works of art. Among the latter are the fantastic supports for incense burners” (p. 164). (See all of pp. 164-73.) “The excellence of the workmanship lavished upon it suggests that the Toltec intruders were better off in Yucatan” (p. 207).

Book of Mormon correspondence: See 2 Nephi 5:15-16; Jarom 1:8; Ether 10:7, 27. The archaic meaning of “curious” is “made or prepared skillfully, done with painstaking accuracy or attention to detail.”⁴⁰

Analysis of correspondence: In the Book of Mormon, as in *The Maya*, many great workmen practiced excellent workmanship in a variety of materials (including materials other than cement/stucco). So the correspondence is specific and detailed. It is also highly unusual. As mentioned above, whoever wrote the Book of Mormon lived in early 19th century America, where the Indians were generally deemed to be “savages.” How did that person correctly “guess” that the ancestors of these “savages” were great workmen in many different materials? Likelihood = 0.02.

6.19 Trade goods traveled by sea

Coe's standard: “The great majority of goods traveled by sea, since roads were but poor trails and cargoes heavy. This kind of commerce was cornered by the Chontal Maya, or Putun, such good seafarers that Eric Thompson called them ‘the Phoenicians of Middle America’” (p. 232).

Book of Mormon correspondence: See Alma 63:5-10; Helaman 3:10, 14.

Analysis of correspondence: The correspondence is specific, there was a lot of trade by sea, and some detail is provided. Joseph Smith may have known something of the trade between the Iroquois and other northeastern tribes carried on by canoe. However, the trade by the Indians of Joseph’s time was via freshwater lakes and rivers and not ocean shipping, as described in both the Book of Mormon and *The Maya*. So the correspondence lacks a bit to be considered specific, detailed, and unusual, but it is considerably more than just specific. We count this likelihood = 0.1 for specific and somewhat detailed and unusual.

6.20 Books stored underground in lidded stone boxes

Coe's standard: “A few probable coffers exist for books, including the recent find of a lidded limestone box from Hun Nal Ye cave in Guatemala” (p. 239).

Book of Mormon correspondence: See p. xi (Introduction and Witnesses).

Analysis of correspondence: This correspondence could hardly be more specific and detailed. The Book of Mormon was buried below ground in a lidded stone box. The Maya also (probably) stored some of their books in lidded stone boxes, the one mentioned in a cave. The correspondence is also

40. Dictionary.com, s.v. “curious,” last accessed September 28, 2018, <https://www.dictionary.com/browse/curious>.

unusual. None of the Indians of Joseph Smith's time wrote books, let alone stored them in stone boxes. Likelihood = 0.02. The Maya were not the only Mesoamerican Indians who stored sacred objects in stone boxes. So did the Aztecs.⁴¹

6.21 Towers built, some very tall, possibly watchtowers

Coe's standard: "It has been suggested that the tower was used as an observatory, but it commands a wide view and could also have served as a watchtower" (p. 151). "decoration of perfectly ordinary small 'palaces' with high towers imitating the fronts of temple-pyramids; these towers, however, are solid, the steps being impossibly narrow and steep, and the 'doorway' at the summit leading to nothing" (p. 161).

Book of Mormon correspondence: See Mosiah 2:7; Mosiah 11:12; Alma 48:1; Helaman 7:10-11; Moroni 9:7.

Analysis of correspondence: The Book of Mormon specifically mentions tall towers being built as watchtowers. The correspondence is therefore specific and detailed. We would also count it as unusual. What Indians of Joseph Smith's time and place built tall towers? However, *View of the Hebrews* also contains a very brief, undetailed mention of towers. So we count this correspondence as merely specific and detailed. Likelihood = 0.1.

6.22 Multiple formal entrances to villages

Coe's standard: "The supernatural world is ever-present in Chan Kom [a traditional Maya village] and in the outlying fields and forest. At the four entrances to the settlement are four pairs of crosses and four *balam* ('jaguar') spirits" (p. 296).

Book of Mormon correspondence: See Mosiah 22:6; Alma 8:18.

Analysis of correspondence: The correspondence is specific. There were multiple formal entrances to the villages/towns of the Maya people and also among the Book of Mormon peoples. However, no distinctive details are given in the Book of Mormon, nor does the practice seem unusual. Even small towns on the American frontier had more than one entrance. Specific only, likelihood = 0.5.

6.23 Fine fabrics and textiles, elaborate clothing

Coe's standard: "Besides jade, the corpse was ornamented with ... rich textiles which have long since rotted away" (p. 106). "Sadly, nothing remains of all the perishable products which must have traveled the same routes — textiles" (p. 113). "The royal corpse had been virtually swaddled, wrapped in layers of lime, palm, and fine cotton textiles" (p. 144). "Every temple, every palace room was surely festooned with curtains and wall hangings" (p. 171).

41. Robert Draper, "Unburying the Aztec," *National Geographic* (November 2010), <https://www.nationalgeographic.com/magazine/2010/11/greatest-aztec/>.

Book of Mormon correspondence: See 2 Nephi 28:13; Mosiah 10:5; Alma 4:6; Helaman 6:13; Helaman 13:28.

Analysis of correspondence: The correspondence is both specific and detailed. Both the Book of Mormon and *The Maya* describe people who had available to them very fine, rich and elaborate textiles and clothing. The correspondence also seems unusual. The Indians of Joseph Smith's time and place wore clothing made primarily of animal skins and did not have access to the cotton worn by Indians in warmer climates. Specific, detailed and unusual. Likelihood = 0.02.

Calculation of technological and miscellaneous correspondences

There are 23 specific technological/miscellaneous correspondences between the Book of Mormon and *The Maya*. Of these, three have a likelihood of 0.5, eight have a likelihood of 0.1 and twelve have a likelihood of 0.02. Thus the overall likelihood of these 23 positive correspondences, taken together, is $0.5^3 \times 0.1^8 \times 0.02^{12} = 5.12 \times 10^{-30}$.

Calculation of overall likelihood for all 131 correspondences in six categories

The overall likelihood of these 131 correspondences occurring together is calculated by multiplying the likelihoods of each of the six categories, namely $4.99 \times 10^{-33} \times 3.21 \times 10^{-35} \times 1.28 \times 10^{-24} \times 2.0 \times 10^{-13} \times 1.28 \times 10^{-18} \times 5.12 \times 10^{-30} = 2.69 \times 10^{-151}$.

We can confirm this calculation by noting that of these 131 correspondences, 23 have a likelihood of 0.5; 57 have a likelihood of 0.1; and 51 have a likelihood of 0.02. Thus the overall likelihood can also be computed as $0.5^{23} \times 0.1^{57} \times 0.02^{51} = 2.69 \times 10^{-151}$.

Appendix B

Negative Correspondences between the Book of Mormon and *The Maya*

Points of disagreement between *The Maya* and the Book of Mormon

1. Horses existed during Book of Mormon (Lehite and Jaredite) times

Coe's standard: "It was then a broad, grass-covered plain, frequented by 'big game' — extinct species like horses, mastodons, camelids, the elephant-like gompothere" (p. 44). According to Dr. Coe, the horse was extinct in the Americas by Book of Mormon times.

Book of Mormon correspondence: Alma 18:9-10, 12; Enos 1:21; and 3 Nephi 4:4, among others.

Analysis of correspondence: This is specific and detailed. The Book of Mormon clearly states that there were horses among the Book of Mormon peoples and that the horses existed in both Lehite and Jaredite times. Dr. Coe insists that they did not exist. Likelihood = 50.0.

2. Elephants existed during Book of Mormon (Jaredite) times

Coe's standard: "It was then a broad, grass-covered plain, frequented by 'big game' — extinct species like horses, mastodons, camelids, the elephant-like gompothere" (p. 44). "These great elephants were killed by darts hurled from spear-throwers" (p. 44).

Book of Mormon correspondence: Ether 9:19.

Analysis of correspondence: The only mention of elephants was in Jaredite times, many centuries before the Lehighites arrived. The elephants may indeed have been killed off before the Nephites arrived. So this is specific and detailed without rising to unusual. Likelihood = 10.0.

3. Iron existed during Book of Mormon (Lehite and Jaredite) times

Coe's standard: "But the European invaders brought with them more than their civil and religious order: they imposed a new economic order as well. Iron and steel tools replaced chipped or ground stone ones, and the Maya took readily to the Spaniards' axes, machetes, and billhooks, which in the lowlands enabled them to cope with the forest as they never had before" (p. 290). Dr. Coe states that there is no evidence of iron or steel in Book of Mormon times.

Book of Mormon correspondence: 2 Nephi 5:15; Jarom 1:8; Mosiah 11:3, 8; Ether 10:23.

Analysis of correspondence: There are several mentions of iron and steel among both Lehite and Jaredite peoples. So this is specific and detailed. However, there is no description of how widely used these metals were, so their use could yet be undiscovered. Nonetheless, to enable a rigorous test of the Book of Mormon, we grant this correspondence the maximum possible evidentiary weight. Likelihood = 50.0.

4. Steel existed during Book of Mormon (Lehite and Jaredite) times

Coe's standard: See 3 above.

Book of Mormon correspondence: 2 Nephi 5:15; Jarom 1:8; Ether 7:9.

Analysis of correspondence: See #3 above. Granted maximum possible weight. Likelihood = 50.0.

5. Copper existed during Book of Mormon (Lehite and Jaredite) times

Coe's standard: "The many copper bells and other objects from the well were of Mexican workmanship" (p. 212). "But exactly how large trees were felled prior to the adoption of copper axes in the Postclassic ... is unclear" (p. 230).

Book of Mormon correspondence: Mosiah 8:10; 11:3, 8,10; Ether 10:23.

Analysis of correspondence: Coe says there is no evidence of copper in the Yucatan prior to the Late Classic, while the Book of Mormon states clearly that there was copper among the Book of Mormon peoples during at least part of their history. The Book of Mormon does not claim to take place exclusively in the Yucatan area, and there clearly were copper and full metallurgy in northern South America. Long-distance trade in copper also clearly took place. So the lack of correspondence seems specific and detailed, but not unusual. We give this correspondence a weight of 10.0.

6. Refined gold and silver existed during Book of Mormon times

Coe's standard: "a gold frog (possibly an import from Panama, and one of the earliest-attested metal objects yet discovered for the Maya)" (pp. 194-95). "Detail from a gold disk from the Sacred Cenote, Chichen Itza" (p. 205n126). "Many of the objects dredged from the muck at the bottom of the Cenote are of Toltec manufacture, including some marvelously fine jades and the gold disks already mentioned. ... The local lords brought treasures of gold from places as far afield as Panama" (p. 212).

Book of Mormon correspondence: Mosiah 11:3, 8-9; Mosiah 22:12; Ether 10:12, 23.

Analysis of correspondence: The mention of gold and silver in Mosiah 11 and 22 probably took place in highland Guatemala and not the Yucatan. There is certainly gold and silver in highland Guatemala. We don't know where the Book of Ether took place, but much gold and silver existed in Mexico, so the available gold and silver could have been distributed by trade to the Maya in Yucatan. Because it is "one vast shelf" of limestone, the Yucatan has no metals or metal ores. Since this correspondence is specific and detailed without being unusual, we give this a weight of 10.0.

We do not count refined gold and silver separately. In nature, gold is nearly always accompanied by silver, and thus to refine gold by removing the silver is to refine the silver also.

Cumulative strength of these six negative correspondences is $50^3 \times 10^3 = 1.25 \times 10^8$.

Points of disagreement between the Book of Mormon and Dr. Coe in his *Dialogue* article and in his podcasts

1. Brass existed during Book of Mormon (Lehite and Jaredite) times

Coe's standard: Coe makes no mention of brass in his book but states in the podcasts that there is no evidence for it in Mesoamerica.

Book of Mormon correspondence: See 2 Nephi 5:15; Mosiah 8:10; Mosiah 11:3, 8, 10.

Analysis of correspondence: The Book of Mormon states clearly that brass existed among the Book of Mormon peoples, while Dr. Coe says there is no evidence for it in Mesoamerica. We grant a likelihood of 50 in support of the hypothesis.

2. Chariots existed during Book of Mormon (Lehite) times

Coe's standard: There is no evidence of wheeled vehicles in Mesoamerica, although wheeled toys have been found, and potter's wheels still exist.

Book of Mormon correspondence: See Alma 18:9-10, 12; Alma 20:6; 3 Nephi 3:22.

Analysis of correspondence: We wonder, given the roads that the Maya and other Mesoamerican Indians undoubtedly constructed and the wheels they also made, why on earth they continued to carry their goods on their backs. We also do not wish to go into the details of what a "chariot" might be. Other scholars have already dealt with that issue and can grant to this negative correspondence whatever weight they choose. We simply grant to this correspondence the maximum weight of 50.0.

3. Sheep existed during Book of Mormon (Jaredite) times

Coe's standard: In the podcasts Dr. Coe states that there is no evidence of sheep in Mesoamerica.

Book of Mormon correspondence: Ether 9:18. The only unambiguous reference to sheep in the Book of Mormon is many centuries BC. The other references to sheep seem to be of a "religious" nature rather than specific reference to animal husbandry. There are 70 mentions of the word "flocks" in the Book of Mormon, but we do not know what animals these flocks consisted of.

Analysis of correspondence: This is not particularly strong evidence, even giving the most generous possible interpretation. There is no mention of sheep during Nephite times, nor evidence that keeping of sheep was widespread. As evidence, this correspondence cannot be weighted more than 2.0.

4. Goats existed during Book of Mormon (Jaredite and Lehite) times

Coe's standard: In the podcasts, Dr. Coe says there is no evidence of goats or wild goats.

Book of Mormon correspondence: 1 Nephi 18:25; Enos 1:21; Ether 9:18.

Analysis of correspondence: As before, we wonder what animals the Book of Mormon might mean when it refers to “goats” and “wild goats.” For example, mountain goats are not closely related to the domestic goat or to the wild goat (these are of the genus *Capra*). The domestic goat is descended from the wild goat. However, *goat* is the word given in the text of the Book of Mormon, and goats appear to have been important to both the Lehiters and the Jaredites. So we give this negative correspondence the maximum possible weight. Likelihood = 50.0.

5. Swine existed during Book of Mormon (Jaredite) times

Coe's standard: Coe claims that the domestic pig was unknown among the Maya until the Spanish conquest. However, he also concedes that modern Maya keep the peccary (New World pig) as pets and a source of food, although he says they do not domesticate well.

Book of Mormon correspondence: Ether 9:18.

Analysis of correspondence: The only mention of swine is in Jaredite times. Given the historical remoteness of that era, it may not be unusual that better evidence of the domestic pig has not been found. Also, given the existence of the peccary throughout Mexico, Central and South America, it can be plausibly argued that it is the peccary that is referred to in Jaredite times as swine. Specific only. Likelihood = 2.0.

6. Wheat existed during Book of Mormon times

Coe's standard: Coe states that wheat has not been found in Mesoamerica.

Book of Mormon correspondence: Mosiah 9:9.

Analysis of correspondence: There is no claim in the Book of Mormon that those peoples domesticated wheat nor that it was their primary grain. In fact, the Lehite colony specifically mentions bringing “seeds” with them, so it is likely that Old World wheat was among those seeds. Also, the Book of Mormon seems to indicate corn as the primary grain (see Appendix A, Correspondence 2.22). Wheat may not have been widely grown, and therefore the evidence for wheat more difficult to detect centuries later. So at most this correspondence must be regarded as specific, but it does not rise to detailed or unusual. Likelihood = 2.0.

7. Barley existed during Book of Mormon times

Coe's standard: Coe states that barley has not been found in the Americas.

Book of Mormon correspondence: Mosiah 7:22; Mosiah 9:9; Alma 11:7, 15.

Analysis of correspondence: As we argued in #6 above for wheat, the Book of Mormon does not claim that those peoples domesticated barley, nor that it was their primary grain. In fact, the Lehite colony specifically mentions bringing “seeds” with them, so it is possible that Old World barley was among those seeds. As noted, the Book of Mormon seems to indicate corn as the primary grain (see Appendix A, Correspondence 2.22), so barley might not have been a principal crop and therefore not widespread like corn.

By the way, barley (and other grains) were the basis of the Nephite monetary system described in Alma 11. In Han China, officials could be paid in grain or coin — an interesting “hit” for the Book of Mormon. So at most this correspondence must be regarded as specific, but it does not rise to detailed or unusual. Likelihood = 2.0.

8. Cattle (oxen and cows) existed during Book of Mormon times

Coe’s standard: Coe claims that cattle (*Bos taurus*) did not exist in the Americas until the Spanish brought them. Their bones have never been found.

Book of Mormon correspondence: Enos 1:21; 3 Nephi 4:4; Ether 9:18.

Analysis of correspondence: Here we really do need to worry about what the word *cattle* means. *Cattle* is an Anglo-French word, related to our word modern English word *chattel*, meaning simply private or personal property. It has evolved to include “domestic quadrupeds,” more narrowly animals of the bovine variety. But the Book of Mormon may use it in the earlier sense of “quadrupeds,” animals used for tillage, labor, or food for humans. Thus in its primary sense, the word may include a variety of domesticated beasts.⁴²

“All manner of cattle,” the phrase used in Ether 9:18, is likely earlier English usage. However, to once again be rigorous in our test of the Book of Mormon, we will assume that the cattle referred in the book are indeed *Bos taurus* (including both oxen and cows), which Dr. Coe says did not exist, and we will grant this negative correspondence a likelihood of 50.0.

9. Silk existed during Book of Mormon times

Coe’s standard: There is no evidence of silkworm culture. The Spaniards were very impressed by the fineness of the fabrics the Maya produced. The Spaniards had no fabrics so fine. The tropical environment has a strong tendency to destroy fabrics.

Book of Mormon correspondence: Alma 1:29; Alma 4:6; Ether 9:17; Ether 10:24.

42. Modern English dictionaries explain the origin and evolution of the meanings of the word *cattle*. See also Webster’s Dictionary 1828: Online Edition, s.v. “cattle”, last accessed September 28, 2018, <http://webstersdictionary1828.com/Dictionary/cattle>.

Analysis of correspondence: Both the Lehighites and Jaredites had a fabric they called silk, and the Maya in particular were able to produce very fine fabrics. Given the tropical climate and the resulting decay of organic materials, we believe this negative correspondence is specific, but not detailed or unusual. Likelihood = 2.0.

10. Asses (donkeys) existed during Book of Mormon times

Coe's standard: Dr. Coe says there is no evidence of asses (donkeys) in the New World.

Book of Mormon correspondence: 1 Nephi 18:25; Ether 9:19.

Analysis of correspondence: The Book of Mormon states that there were asses in both Jaredite and Lehighite times and that they were useful for man. Since donkeys are hardy animals and can subsist on marginal feed, their utility would argue for them being somewhat widespread. So we will grant to this negative correspondence a likelihood = 50.0.

11. Hybrid Egyptian/Hebrew language/writing system

Coe's standard: Dr. Coe says there is no such hybrid system in the New World, and that the Maya language/writing system is of local invention, not an import from the Old World. However, he also notes that there exist two scripts from ancient America that cannot currently be read because a bilingual ("Rosetta Stone") is lacking.

Book of Mormon correspondence: See 1 Nephi 1:2 and 3:19; Mosiah 1:2, 4; Mormon 9:34.

Analysis of correspondence: The Book of Mormon emphasizes "the language of the fathers," an arcane, sacred written language connected to the language of the Egyptians. It is the language in which the plates were written and was known to only a few. It was obviously not the common language. In fact, Moroni (see Moroni 9:34) says that "none other people knoweth our language." Given the existence of Mesoamerican scripts that cannot be read, and the fact that the sacred language of the Nephites was a closely guarded language, this negative correspondence cannot be regarded as either detailed or unusual. At most it is specific. Likelihood = 2.0.

12. Lack of Middle Eastern DNA in the New World

Coe's standard: Dr. Coe states that he has never seen any evidence that would convince him of the presence of Middle Eastern DNA in the New World.

Book of Mormon correspondence: Dr. Ugo Perego has written extensively on this DNA issue.⁴³ There are many reasons why the genetic endowment brought by the Lehighite, Jaredite and Mulekite colonies may not be detectable

43. Wikipedia, s.v. "Ugo A. Perego," last edited September 12, 2018, 13:22, https://en.wikipedia.org/wiki/Ugo_A._Perego.

today among Native Americans, not the least of which is the massive die-off of Native Americans, owing to European diseases post-contact. A critical scientific problem is the lack of an appropriate Book of Mormon “control” group against which Native American DNA can be tested. In other words, how will we know “Lehite” DNA if we actually find it?

Analysis of correspondence: It is tempting to simply dismiss this negative correspondence as having no evidentiary value either for or against the historicity of the Book of Mormon. At most it is specific: “No middle Eastern DNA markers have been found in Native Americans.” But that is not detailed or unusual, given the scientific issues noted above. Likelihood = 2.0.

Cumulative strength of these 12 negative correspondences is $50^5 \times 10^7 = 3.13 \times 10^{15}$.

A few ridiculous objections to the Book of Mormon and a rejoinder to Dr. Coe

Near the end of Podcast #907, Dr. Dehlin invited Dr. Coe to unburden himself about anything that Coe thought should be in the Book of Mormon, but is not. Dr. Coe mentions four things: the absence of (1) books, (2) chocolate, (3) turkeys, and (4) jaguars. Since Dr. Coe does not hesitate to use the word *ridiculous* to characterize arguments for the Book of Mormon he finds extremely unconvincing, we do not hesitate to use the same word to characterize these particular objections. They are, in fact, ridiculous.

First of all, the Book of Mormon clearly refers to multiple books being present (see Appendix A, Correspondence 6.9). If Dr. Coe had read the Book of Mormon more than once and more recently than 45 years ago, he might have noticed that fact. As for chocolate, turkeys, and jaguars, the Book of Mormon does not claim to be a text on elite foods, poultry, or exotic wild animals. The Book of Mormon, from beginning to end, is meant to testify of Christ and bring all humankind to him.

Chapter 6 of 1 Nephi (verses 3–6) describes the intent and scope of the Book of Mormon. This is the intent by which the Book of Mormon should be judged (and not by the standards of academic curiosity). Verse 6 reads, “Wherefore, I shall give commandment unto my seed that they shall not occupy these plates with things which are not of worth unto the children of men.”

Knowledge of turkeys, jaguars, and consumption of chocolate among the ancient Mesoamericans is of no real worth. Knowing about Jesus Christ, about eternal life, about the resurrection, and the mercy that has been made available to us through Christ are topics of supernal worth.

If we are to take seriously Dr. Coe's objections to the lack of equal time given to subjects as chocolate, jaguars, and turkeys in the Book of Mormon, we have an objection for him about his own book. Bruce and Brian Dale are both engineers, which means we love applied mathematics. Dr. Coe does not mention the extensive use of the "golden section" or *phi* ratio in Maya architecture, although it is clearly present.⁴⁴ Why did Dr. Coe not mention this "golden section" in his book *The Maya*? Shall we disbelieve the rest of his book because of this omission?

No, that would be ridiculous. All books must limit their scope and have a focus. Every author/editor must decide what to include and what to leave out. Dr. Coe did so decide in *The Maya*. So did the editors and authors of the Book of Mormon: Another Testament of Jesus Christ.

Appendix C

Statistical Analysis of Correspondences between *Manuscript Found* and *The Maya*

The Oberlin College Archives provide this useful introduction to the Spaulding Manuscript (aka *Manuscript Found*).⁴⁵

The Spaulding Manuscript in the Oberlin College Library

This library possesses a manuscript which apparently is in the handwriting of Solomon Spaulding, since it seems to agree with fragments of account books which I have seen, and, its genuineness is certified by a number of people who apparently examined it about the year 1839. It is not, however, the manuscript that was said by witnesses to resemble the Book of Mormon, since that manuscript was always spoken of as having been written in the style of the sacred scriptures, whereas this is a plain narrative containing accounts of the wars between the Kentucks and the Sciotos — Indian tribes ascribed to this country.

The manuscript which we have was apparently obtained from Spaulding's effects at West Amity, Pennsylvania, at some time after the publication of the Book of Mormon, and seems to have been found as a result of a search to find whatever remained of Spaulding's writings in order to throw light on the question of whether he was the author of

44. Xensen, "Maya Architecture and the Golden Mean," *Buried Mirror: Latest Reflections*, May 20, 2007, <http://www.buriedmirror.com/latest/culture/architecture/maya-architecture-and-the-golden-mean/>.

45. A.S. Root, "The Spaulding Manuscript in the Oberlin College Library," May 12, 1927, <http://www2.oberlin.edu/archive/oresources/smanuscript/index.html>.

the Book of Mormon, or not. The manuscript which we have was copied under our supervision and a typewritten copy furnished to the Shepherd Book Company, Salt Lake City, Utah, and also to the Reorganized Church of Christ of Latter Day Saints, then located at Lamoni, Iowa. It was printed and sold by both branches of the Mormon Church, who gave it the title “The Manuscript Found” — a title which does not appear in any way on the manuscript, which simply had pencilled upon the papers in which it was wrapped, “Manuscript story, Conneaut Creek.”

It seems to have been taken from West Amity, Pennsylvania, to Painesville, Ohio, and there to have come into the possession of a Mr. Hulbert, owner of the “Painesville Telegraph,” in whose office had been printed the first book against Mormonism, in 1836. Apparently the manuscript, after being examined and found not to be a manuscript connected with the Book of Mormon, was laid aside and passed with the files of the office of the “Painesville Telegraph” when it came into the possession of Mr. Rice, a man who owned and edited at one time various anti-slavery papers in northern Ohio. When this Mr. Rice became an elderly man he removed to Honolulu to live with his daughter, a graduate of this institution, Mrs. Doctor Whitney. When President Fairchild visited Honolulu in 1885 he asked this old Mr. Rice if he did not have some anti-slavery literature which he could give to the Oberlin College Library for its anti-slavery collection. This set Mr. Rice to looking over his old papers, and among them this manuscript of Spaulding’s was found. It was given to President Fairchild and added to the Oberlin College Library.

It seems pretty clearly not to have been the manuscript from which the Book of Mormon was written, as it deals with scenes taking place in America among Indians, possibly of the Mound Builders period. Spaulding is known to have been interested in the Indians, particularly of that period, because of certain mounds which were in his home lot in Conneaut. The manuscript is thought by some to have a certain very general resemblance to the outline of the Book of Mormon, but is not at all written in phraseology resembling the phraseology of the Bible, which is the characteristic of the Book of Mormon. The theory of those who believe in Spaulding’s having written a manuscript which furnished the basis of the Book of Mormon, is that he wrote another manuscript in biblical phraseology, which he read to many of his Conneaut friends and thereby came to be known among the young people of the town as “And-it-came-to-pass” Spaulding. The theory of those who accept this explanation is that he subsequently took this manuscript written

in biblical phraseology to Pittsburg, where it fell into the hands of a Mr. Patterson, in whose office Sidney Rigdon worked, and that through Sidney Rigdon it came into the possession of Joseph Smith and was made the basis of the Book of Mormon. In regard to that question, our manuscript does not seem to throw very much light.

(From a letter written by Professor A. S. Root, May 12, 1927.)

Positive Correspondences between *Manuscript Found* and *The Maya*

1. Governed by kings

Coe's standard: Among many such references: "Among the highland Maya there were real kings" (p. 236). "The K'iche' state was headed by a king, a king-elect and two 'captains'" (p. 226). "It is not unreasonable to see one of its [Calakmul's] kings, Yuknoom the Great, as their Charlemagne" (p. 276).

"Manuscript Found" Correspondence: References to kings are found all through this document; see for example pp. 17, 19, 32 and 43, among others.

Analysis of correspondence: The correspondence is specific, but by no means detailed or unusual. Likelihood = 0.5.

2. Dogs present and were eaten

Coe's standard: "One such strain [of dog was] ... fattened on corn, and either eaten or sacrificed" (p. 231).

"Manuscript Found" Correspondence: pp. 24-26 refer to the sacrifice and eating of dogs.

Analysis of correspondence: The correspondence is specific, but also by no means detailed or unusual. Many Native American tribes also ate dogs. Likelihood = 0.5.

3. Dogs were sacrificed as a religious act

Coe's standard: "Wild turkeys, deer, dogs ... were considered fit offerings for the Maya gods" (p. 244).

"Manuscript Found" Correspondence: See p. 25-26 describing a holocaust offering of black dogs, while white dogs were eaten.

Analysis of correspondence: The correspondence is specific, and seems unusual for the early 1800s, but it is not detailed in the case of *The Maya*. Likelihood = 0.1.

4. Ancestors emigrated from the west

Coe's standard: "It was from the setting sun we came, from Tula, from beyond the sea" (p. 224).

“Manuscript Found” Correspondence: “Their tradition tells them they emigrated from the westward [from across the sea]” (p. 32).

Analysis of correspondence: We have previously (Correspondence 2.20 in Appendix A) given this correspondence a likelihood of 0.1, and so we use that value here also. Likelihood = 0.1.

5. Many cities present

Coe’s standard: To name just a few of the cities mentioned in *The Maya* we have Uxmal, Chichen Itza, Coba, Tulum, Acanceh, Ek’ Balam, Mayapan, Piedras Negras, Ceibal, Palenque, Naranjo, El Mirador, Bonampak, Uaxactun, Kaminaljuyu, Takalik Abaj, Tikal (p. 9), “the great Usumacinta, ... draining the northern highlands, ... twisting to the northwest past many a ruined Maya city” (pp. 16-17). “more advanced cultural traits, ... the construction of cities” (p. 26).

“Manuscript Found” Correspondence: See references to cities on pp. 33, 35, and 46, among others.

Analysis of correspondence: Same as Correspondence 1.5 in Appendix A. Likelihood = 0.1.

6. Wore beautiful feathers

Coe’s standard: “Hundreds of resplendent quetzal feathers fan out behind his back.” [peaking of a mural]. (p. 189nxvi).

“Manuscript Found” Correspondence: See pp. 56, 57, 96.

Analysis of correspondence: This correspondence is specific, but does not correspond in details, nor is it unusual. The Indians of Joseph’s time certainly wore feathers. *Manuscript Found* refers only to blue feathers, while *The Maya* refers to the wearing of multicolored quetzal feathers. Likelihood = 0.5.

7. Raised corn, beans and squashes

Coe’s standard: “In these maize fields ... secondary crops like beans and squashes ... are inter-planted” (p. 16).

“Manuscript Found” Correspondence: See p. 37.

Analysis of correspondence: The reference is specific but not detailed or unusual. These crops were staples of the Indian diet. Likelihood = 0.5.

8. Had domestic turkeys

Coe’s standard: “Both wild and domestic turkeys were known” (p. 231).

“Manuscript Found” Correspondence: p. 38.

Likelihood analysis: Wild turkeys and domestic turkeys were known in eastern North America from very early times. This is specific, but not at all unusual, nor are any significant details given. Likelihood = 0.5.

9. Used cotton

Coe's standard: "Cotton was widely grown" (p. 231).

"Manuscript Found" Correspondence: p. 38.

Likelihood analysis: Specific but no unusual details provided in either book, nor is either reference at all detailed. Likelihood = 0.5.

10. Wealthy people had decorated pottery

Coe's standard: "an elite class ... imported pottery ... to stock their tombs" (p. 103). "restored Thin Orange ware vessel in the form of a seated man" (p. 105n47).

"Manuscript Found" Correspondence: p. 39.

Likelihood analysis: Specific, but there are no details of the decorations in *Manuscript Found*. It would not have been a daring leap to surmise that wealthy people had luxury goods. Likelihood = 0.5.

11. Handed down both sacred and secular texts

Coe's standard: "The traditional annals of the peoples of Yucatan ... transcribed into Spanish letters ... apparently reach back as far as the beginning of the Postclassic era. ... The 'Books of Chilam Balam,' which derive their name from a Maya savant [are] said to have predicted the arrival of the Spaniards from the east" (p. 199).

"Manuscript Found" Correspondence: p. 52.

Likelihood analysis: Again, specific in both books, but there is little distinguishing detail in *Manuscript Found*. Also, this idea was not unusual. Western society had been handing down sacred and secular texts for many centuries. Likelihood = 0.5.

12. Took hostages of high rank

Coe's standard: "Sons were sent ... to Calakmul ... to serve as hostages securing their fathers' good behavior" (p. 95).

"Manuscript Found" Correspondence: p. 62.

Likelihood analysis: This is the same practice of royal sons being used as hostages. So it is specific and has corresponding detail in both books. But it is not unusual. Hostage taking was a well-known practice. Likelihood = 0.1.

13. Had taxes

Coe's standard: "The ruler took in tax" (p. 93).

"Manuscript Found" Correspondence: See p. 66.

Likelihood analysis: Well, this one ought to get a probability of 0.99999 or more, as it is highly specific but has no distinguishing details, and it is so far from unusual as to be commonplace. But to be conservative in the analysis

(that is, give *Manuscript Found* its greatest chance), we will not discard this evidence. Likelihood = 0.5.

14. Hereditary chief priests

Coe's standard: "During the prosperity of Mayapan, a hereditary Chief Priest resided in that city" (p. 243).

"Manuscript Found" Correspondence: p. 66.

Likelihood analysis: This correspondence is similar to Correspondence 3.11 in Appendix A, to which we have assigned a likelihood = 0.1.

15. Used slings and stones

Coe's standard: "the infantry, from which rained ... stones slung from slings" (p. 236).

"Manuscript Found" Correspondence: p. 72.

Likelihood analysis: This correspondence is similar to Correspondence 4.10 in Appendix A, to which we have assigned a likelihood of 0.02.

16. Land supported millions of people

Coe's standard: "One view perceives as many as eight to ten million people in the lowlands. ... [Others] would go as low as two to three million" (p. 22). "bulk of the population ... [was] apparently in the millions" (p. 177).

"Manuscript Found" Correspondence: See p. 79.

Likelihood analysis: This correspondence is specific, and somewhat detailed. It is also highly unusual. As we did for Correspondence 6.1 in Appendix A, we assign a likelihood = 0.02.

17. Cities fortified with deep trenches and wooden barriers

Coe's standard: "Becan ... was completely surrounded by massive defensive earthworks ... [consisting of] a ditch and inner rampart, 38 ft high, and would have been formidable ... if the rampart had been surmounted by a palisade" (p. 122). "A system of defensive walls ... topped by wooden palisades was constructed around, and within them [the Maya cities]" (p. 151).

"Manuscript Found" Correspondence: See p. 80.

Likelihood analysis: This correspondence is specific and detailed, but perhaps not entirely unusual. At least for wooden forts and palisades, these were well known in early frontier America. The correspondence does not have nearly the same level of detail as given in the Book of Mormon and summarized in correspondence 4.2. So it is specific and unusual, for a likelihood of 0.1.

18. Prophets used a stone to see the future and discover hidden things

Coe's standard: "Two of the [Maya] houses were certainly devoted to village rituals. [One house had] a collection of crystals like those used by modern Maya diviners" (p. 107). "[One Maya community religious leader] ... is

seemingly imbued with far greater spiritual power: this is the *hmeen*, “*he who does or understands things*” — that is, the shaman. ... These specialists still play an important role in divination and prophecy, using their crystals to scry the future. ... These shamans also engage in divination, either by using their magic crystal” (pp. 296–97, emphasis added).

“*Manuscript Found*” *Correspondence*: See p. 107 for a quite detailed account of the use of such crystals.

Likelihood analysis: This correspondence is obviously specific and detailed. But however odd and unusual it may seem to us, it would definitely not have been unusual in the early 19th century when the use of such stones was an integral part of folk magic. Joseph Smith himself had a seer stone, as we have summarized in Correspondence 3.5 in Appendix A. So this correspondence has a likelihood of 0.1.

19. Instruments blown at the start of battle

Coe’s standard: “More formal battle opened with the dreadful din of drums, whistles, shell trumpets and war cries” (p. 236).

“*Manuscript Found*” *Correspondence*: See p. 126.

Likelihood analysis: This correspondence is specific, but it is not particularly detailed, nor is it unusual. Horns and trumpets were part of European warfare, and the *shofar* trumpets announced Joshua’s battle against Jericho. Likelihood = 0.5.

Summary of the Positive Correspondences

There are 19 positive correspondences between *The Maya* and *Manuscript Found*. Ten of these have a likelihood of 0.5, seven likelihood of 0.1, and two a likelihood of 0.02. The product of these is therefore $0.5^{10} \times 0.1^7 \times 0.02^2 = 3.91 \times 10^{-14}$.

These are evidences that support the hypothesis that *Manuscript Found* is an authentic record set in ancient Mesoamerica. The product of these evidences is multiplied by the initial skeptical prior of one billion to one that *Manuscript Found* is *not* an authentic record set in ancient Mesoamerica. The result is 3.91×10^{-5} .

Taken by itself, this result would change our skeptical prior of a billion to one against the hypothesis to a positive posterior of more than a thousand to one that *Manuscript Found* is an authentic record of ancient Mesoamerica. However, we have not yet applied the evidence against the hypothesis, that is, the negative correspondences between *The Maya* and *Manuscript Found*. We do this now.

Negative Correspondences between *Manuscript Found* and *The Maya*

1. *Manuscript Found* claims that the manuscript was found in an “earthen box.”

Coe’s standard: “A few probable coffers exist for books, including the recent find of a lidded limestone box” (p. 239).

Negative correspondence from “Manuscript Found”: The manuscript was found in an “earthen box.” See p. 12.

Analysis of correspondence: This is similar to Correspondence 6.20 in Appendix A, comparing the Book of Mormon to *The Maya*. We have assigned a likelihood of 0.02 to this fact as a positive correspondence. Thus lack of correspondence, or negative correspondence, in this case must be the reciprocal of the positive correspondence or likelihood $1.0/0.02 = 50.0$.

2. *Manuscript Found* claims that the manuscript was written on parchment.

Coe’s standard: “These [codices, books] are written on long strips of bark paper” (p. 239).

Negative correspondence from “Manuscript Found”: Parchment, see p. 12.

Analysis of correspondence: If the Reverend Solomon Spaulding, the author of *Manuscript Found*, had guessed correctly that the Maya wrote on bark paper, then that would be specific, detailed and unusual. But that is not the case, so the likelihood is = 50.0.

Hereafter we will just refer to Reverend Spaulding (also spelled “Spalding”) as “the author.”

3. *Manuscript Found* claims that the manuscript was written in Latin.

Coe’s standard: “At least 15,000 examples of Maya writing have survived” (p. 237). Authors’ note: there is no suggestion by Dr. Coe that the Maya ever wrote in Latin.

Negative correspondence from “Manuscript Found”: Latin, see p. 12.

Analysis of correspondence: If the author of *Manuscript Found* had guessed correctly that the Maya wrote in Latin, then that would be specific, detailed and unusual. But that is not the case, so the likelihood is = 50.0.

4. *Manuscript Found* claims that the men wore shoes, long stockings and waistcoats.

Coe’s standard: No carvings or murals of the Maya show them dressed as New England gentlemen. They were dressed otherwise. See, for example, pp. 188-92.

Negative correspondence from “Manuscript Found”: See p. 39.

Analysis of correspondence: Once again, if the author of *Manuscript Found* had guessed correctly that the Maya dressed as New England gentlemen, then that would be specific, detailed, and (very) unusual. But he did not guess correctly, so the likelihood is = 50.0.

5. *Manuscript Found* claims that the natives raised wheat.

Coe's standard: There is no mention of wheat among the crops raised by the Maya.

Negative correspondence from "Manuscript Found": See p. 37.

Analysis of correspondence: This is a specific guess, but little detail is given. It is probably unusual. Wheat is one of the staple grains for humankind and has been for centuries. It would have been unusual if the author had correctly predicted that the natives did not grow wheat. Likelihood = 10.0.

6. *Manuscript Found* claims that the natives had horses and plowed with them.

Coe's standard: According to Dr. Coe, there is no evidence that the Maya ever had horses, let alone that they plowed with them. The Maya apparently did not plow at all and did not use draft animals.

Negative correspondence from "Manuscript Found": See p. 37.

Analysis of correspondence: Had this guess been correct, it would certainly have been specific, detailed and unusual. The Plains Indians had horses, and the author may have known about those horses, but the Indians did not plow with horses. Likelihood = 50.0.

7. *Manuscript Found* claims that the natives manufactured iron.

Coe's standard: "But the European invaders brought with them more than their civil and religious order: they imposed a new economic order as well. Iron and steel tools replaced chipped or ground stone ones, and the Maya took readily to the Spaniards' axes, machetes, and billhooks, which in the lowlands enabled them to cope with the forest as they never had before" (p. 290). Dr. Coe states that there is no evidence for iron or steel in Book of Mormon times.

Negative correspondence from "Manuscript Found": See p. 38.

Analysis of correspondence: As far as we know, none of the Native Americans of the early 1800s manufactured iron or lead. So if the author had guessed this correctly, it would have been specific, detailed and unusual. But he did not. Likelihood = 50.0.

8. *Manuscript Found* claims that the houses and public buildings exhibited no elegance or grandeur.

Coe's standard: Since the Maya society was class-based (even exhibiting "castes," p. 225), their houses would have differed sharply in the degree of

elegance or grandeur. But their public buildings exhibited a great deal of elegance and grandeur. “Their upper facades and roof-combs were beautifully ornamented with figures in stucco and stone. Yaxchilan is famous for its many stone lintels, carved in relief with scenes of conquest and ceremonial life” (p. 146). “In the rear of [the miniature temple] stands a magnificent low relief tablet carved with long hieroglyphic texts” (p. 152). See photographs and drawings of the Temple of Inscriptions (pp. 158-59). “Palace at Xpuhil: ... The three towers are completely solid and served no other function than decoration” (p. 163n97).

Negative correspondence from “Manuscript Found”: See p. 39.

Analysis of correspondence: Had the author of *Manuscript Found* guessed correctly about lack of elegance in public and private buildings, that would have been specific, detailed, and unusual, since most societies (and rulers) that could afford to have always gone in for a lot of elegance and grandeur. But he guessed incorrectly. Likelihood = 50.0.

9. *Manuscript Found* claims that the houses were one story high, framed and covered with clapboards or shingles.

Coe’s standard: This is completely unlike actual Maya dwellings.

Negative correspondence from “Manuscript Found”: See p. 39.

Analysis of correspondence: Had New England-style frame houses with clapboards and shingles ever been found among the Maya, that would have been specific, detailed, and extremely unusual. But once again, the author of *Manuscript Found* guessed wrong. So consequently the likelihood = 50.0.

10. *Manuscript Found* claims that the “whole catalog of ornamental trumpery is neglected.”

Coe’s standard: In contrast, the Maya really went in for the “whole catalog of ornamental trumpery.” They were devoted to ornamentation in dress and architecture. The grandeur of Maya architecture has already been discussed in Correspondence #8 above. There are many examples of ornamentation in dress. “Santa Rita also yielded an extraordinary set of ear ornaments in gold and turquoise” (p. 219), ... “a splendid pair of ground obsidian [earspools]” (pp. 276-77). Also see the various representations of elaborate Maya dress in the figures between pp. 185-92.

Negative correspondence from “Manuscript Found”: See p. 40.

Analysis of correspondence: Once again, had the author of *Manuscript Found* guessed correctly about lack of personal ornamentation and fancy dress, that would have been specific, detailed, and unusual, since rich people have usually gone in for expensive and fancy dress. But he guessed incorrectly. Likelihood = 50.0.

11. *Manuscript Found* claims that the characters (in their writing system) represent words.

Coe's standard: "The Maya were writing in a mixed, logophonetic system in which phonetic and semantic elements were combined, ... but they also had a fairly complete syllabary" (p. 269).

Negative correspondence from "Manuscript Found": See p. 42. "Characters represent words."

Analysis of correspondence: The author of *Manuscript Found* incorrectly guessed that the writing system was not at least partly phonetic and syllabic. Had he correctly guessed that a mixed logophonetic system was used instead, that would have been specific, detailed, and probably unusual. Likelihood = 50.0.

12. *Manuscript Found* states how writing was to be read on a page.

Coe's standard: "Maya writing was to be read in double columns from left to right, and top to bottom" (p. 265).

Negative correspondence from "Manuscript Found": See p. 42. The natives "wrote from top to bottom, one character below the preceding one, right to left in columns."

Analysis of correspondence: The writer of *Manuscript Found* guessed wrong in this specific, detailed, and unusual point. Had he guessed correctly, we would have assigned this correspondence a likelihood of 0.02. Since he did not guess correctly, the evidence is counted against the hypothesis for a likelihood of 50.0.

13. *Manuscript Found* claims that the natives worshipped one supreme omnipotent being.

Coe's standard: Among the Maya there were many, many gods.

Negative correspondence from "Manuscript Found": See p. 46.

Analysis of correspondence: This is specific and detailed, but perhaps not unusual. The author of *Manuscript Found* was writing in early 19th century America, where the idea of monotheism was deeply embedded. Since the writer guessed wrong for one of the three criteria, the likelihood would be 1/0.1 = 10.0.

14. *Manuscript Found* claims that the natives used shovels and wheelbarrows.

Coe's standard: There is no mention of these earth-moving implements among the Maya or other Mesoamerican Indians, nor is there mention of wheeled tools like a wheelbarrow.

Negative correspondence from "Manuscript Found": See p. 59.

Analysis of correspondence: Had the author of *Manuscript Found* guessed correctly about the existence of these implements and the wheel in ancient America, that would certainly have been specific, detailed, and unusual. But he did not. So the likelihood = 50.0.

15. *Manuscript Found* claims that the natives coined money and limited its supply.

Coe's standard: There is no mention of coins in *The Maya*, and Dr. Coe specifically emphasizes this point in the podcasts with Dr. Dehlin: no coins among the Maya or other Mesoamerican Indians.

Negative correspondence from "Manuscript Found": See p. 66.

Analysis of correspondence: Since no Native Americans were known to use coins, a correct guess on the part of the author of *Manuscript Found* would probably have been specific, detailed, and unusual. But he did not guess correctly. Likelihood = 50.0.

16. *Manuscript Found* claims that there were no wars between neighboring empires for almost 500 years.

Coe's standard: "The Maya were obsessed with war" (p. 236). Coe's book is full of descriptions of war and conquest among the Maya. A bigger difference between the claims of *Manuscript Found* and the actual situation is hard to imagine.

Negative correspondence from "Manuscript Found": See p. 70.

Analysis of correspondence: Human history is one long catalog of violence and men reigning with blood and horror on the earth. The Maya certainly did their part to fill out this dismal catalog of human cruelty. Had the author of *Manuscript Found* been correct in this amazing claim, it would certainly have been specific, detailed, and unusual. Alas, he was wrong. Likelihood = 50.0.

17. *Manuscript Found* claims that adulterers were punished by throwing rotten eggs at them.

Coe's standard: "Adultery was punished by death" (p. 234).

Negative correspondence from "Manuscript Found": See p. 77.

Analysis of correspondence: The practice of throwing rotten eggs at performers dates to medieval times in England; only later did the practice migrate to America. If it were practiced among ancient American Indians as a punishment for adultery, that would certainly be specific, detailed, and unusual. But that is not what was done. Likelihood = 50.0.

18. *Manuscript Found* claims that there was a “happy equality” among people and “great similarity” in their manner of living.

Coe's standard: This was very far from being the case among the Maya, where there was great inequality. See pp. 93, 95, 225 among others.

Negative correspondence from “Manuscript Found”: See p. 77.

Analysis of correspondence: Such periods of equality among people have been very rare. Had the author of *Manuscript Found* been correct in this guess, it would have been specific, detailed, and very unusual. But it was not so. Likelihood = 50.0.

19. *Manuscript Found* claims that “governments were not infested with a thirst for conquest.”

Coe's standard: Dr. Coe shows over and over again that the Maya kingdoms were always busy making or preparing for war. “The Maya were obsessed with war” (p. 236). War and conquest were their way of life for centuries.

Negative correspondence from “Manuscript Found”: See p. 78.

Analysis of correspondence: Once again, the author of *Manuscript Found* simply guessed wrongly. The correspondence is detailed and specific. Since early America lived in the shadow of the British Empire, built on conquest, and centuries of conquest in Europe, this would have been highly unusual, if true. But it was not. Likelihood = 50.0.

20. *Manuscript Found* claims that political institutions among the natives guarded life and property against oppressing injustice and tyranny.

Coe's standard: There is no mention and no evidence of such nice American liberties in *The Maya*. As mentioned, it was a strictly hierarchal society with castes and definite ruling classes (pp. 93, 95, 231). For example, slavery, the epitome of oppression and tyranny, was widely practiced in ancient Mesoamerica. (See pp. 19 and 225.) “Other valuable Yucatan exports were honey, cotton mantles and slaves” (p. 232).

Negative correspondence from “Manuscript Found”: See p. 78.

Analysis of correspondence: Human beings have, much more often than not, oppressed, exploited, robbed and enslaved each other. So a society in which political institutions guarded against such practices would have been quite rare. No such society is recorded by Dr. Coe in *The Maya*. If true, this correspondence would have been specific, detailed, and unusual. But it was not so. Likelihood = 50.0.

21. *Manuscript Found* claims that there were no political intermarriages among neighboring kingdoms.

Coe's standard: (Speaking of political intrigues among rivals), "when Bird Jaguar IV, ruler of Yaxchilan, Guatemala, married Lady Mut Bahlam of Hixwitz, there must have been rejoicing for some and gnashing of teeth for others" (p. 97).

Negative correspondence from "Manuscript Found": See p. 81.

Analysis of correspondence: This is a specific and sufficiently detailed correspondence. Also, if the author of *Manuscript Found* had guessed correctly, it would have been unusual. Political marriages were well known in Europe and Great Britain. So if the claim were supported by evidence from *The Maya*, it would have earned likelihood of 0.02. But the claim was not supported. Likelihood = 50.0.

Summary of the Negative Correspondences

There are 21 negative correspondences between *The Maya* and *Manuscript Found*. Reverend Spaulding was a bold and uninhibited guesser. However, he guessed incorrectly much more often than he guessed correctly. Nineteen of these negative correspondences have a likelihood of 50 and two have a likelihood of 10. The product of these is therefore $50^{19} \times 10^2 = 1.91 \times 10^{34}$.

This number must then be multiplied by 3.91×10^{-5} , which is product of the skeptical prior of a billion to one against the hypothesis and the product of all the likelihoods of the positive correspondences.

The final result is 7.47×10^{29} , or roughly a thousand billion, billion, billion against the hypothesis that *Manuscript Found* describes the same population of facts as *The Maya*.

Thus the end result of weighing both the positive and negative correspondences is that we arrive at a much, much stronger posterior conclusion against *Manuscript Found*. This book is undoubtedly a work of fiction. If Joseph Smith had relied on *Manuscript Found* for the factual details of the Book of Mormon, as some have suggested, he would have included many grossly wrong details about ancient Mesoamerican Indians.

But Joseph Smith did not. Reverend Spaulding guessed his details, and got some right. He got many, many more wrong. For Joseph Smith, however, his correct "guesses" are much, much more numerous and more detailed and powerful than are his incorrect "guesses." Joseph Smith was truly the world's greatest guesser.

Appendix D

Statistical Analysis of Correspondences between *View of the Hebrews* and *The Maya*

View of the Hebrews was published in 1823 by the Reverend Ethan Smith, a Congregationalist minister. It is not deliberate fiction but it does advocate a particular opinion, namely that the American Indians are descended from the lost Ten Tribes. The information cited in the book is nearly always second-, third- and even fourth-hand, with very little in the way of written, documented sources, as modern scholarship might require.

Also, *View of the Hebrews* makes an important caveat about its own claims, namely, “It is not pretended that all the savages (i.e., the American Indians) are in the practice of all these traditions. They are not. But it is contended that the whole of these things have been found among their different tribes in our continent, within a hundred years” (p. 107).

Since *View of the Hebrews* was published before the Book of Mormon, an important outcome for our article to consider this book was to document in some detail what Joseph Smith might have known about the ancient Mesoamericans. Every specific fact claim in *View of the Hebrews* that corresponded to a point of evidence mentioned in *The Maya* was not classified as “unusual” in our comparison of *The Maya* and the Book of Mormon. We did this because Joseph might have known about that fact from reading *View of the Hebrews*, and therefore it would be specific and detailed without being unusual.

Since *View of the Hebrews* also contains many claims that run contrary to facts in *The Maya*, this begs the question “Why did Joseph Smith not also include those erroneous fact claims from *View of the Hebrews* in the Book of Mormon?” Because we are attempting to be very rigorous in our analysis of the Book of Mormon, we do not account for the additional lack of probability involved with Joseph Smith choosing only correct fact claims from *View of the Hebrews* and not the incorrect ones.

The effect of ruling out these positive correspondences between *The Maya* and *View of the Hebrews* was to reduce the Bayesian significance of these particular correspondences and thus reduce their evidentiary weight in favor of the Book of Mormon by a factor of 5⁹ or about two million. There were nine such correspondences, including temples, a great flood, ancestors coming from the west, roads, watchtowers, walled towns, many cities, volcanoes, and covenants.

Positive Correspondences between *View of the Hebrews* and *The Maya*

1. Temples among the Indians

Coe's standard: See pp. 26, 55, 59, 82, 89, among others. Temples were centrally important ritual centers among the Maya.

"View of the Hebrews" correspondence: pp. 31, 41, 50, 77 and 107 mentions temples but associate American Indian temples with the Hebrew Holy of Holies and observing the Law of Moses

Analysis of correspondence: The correspondence is specific, but the details do not correspond between the two books; simply having a temple is probably not unusual. Likelihood = 0.5.

2. Knowledge of an ancient flood among the Indians

Coe's standard: See pp. 41 and 249. "[Wicked humankind was] annihilated, as black rains fell and a great flood swept the earth."

"View of the Hebrews" correspondence: pp. 31, 47 and 107. No details are provided about the flood in this book.

Analysis of correspondence: The correspondence is specific, but the details do not match up. If the details did match up, then the correspondence would qualify as specific, detailed, and unusual, but it does not. It is only specific. In the Book of Mormon and *The Maya* the flood is sent to destroy the wicked, a key detail. Likelihood = 0.5.

3. Possible migration of ancestors of the Indians through the Bering Strait

Coe's standard: "One theory holds [that this hemisphere was populated by Siberian peoples crossing Beringia]. ... The presence or absence of the Bering Strait is thus not necessarily relevant. ... The very first Americans may well have taken a maritime route" (p. 41).

"View of the Hebrews" correspondence: pp. 32, 47, 63, 65, 84, 86. The potential value of this correspondence is diluted by the fact that the time of the migration of the Lost Tribes to this continent through the Bering Strait as proposed in the book does not accord with the land bridge disappearing about 10,000 years ago.

Analysis of correspondence: Specific, but not detailed or unusual to a Bible-reading society. Likelihood = 0.5.

4. Indians say their ancestors came from the west

Coe's standard: "From the setting sun we came, from Tula, from beyond the sea" (p. 224).

“View of the Hebrews” correspondence: See pp. 62, 65. This book does not say that the ancestors came from beyond the sea, but the Book of Mormon does. So *View of the Hebrews* lacks this detail that is found in both *The Maya* and the Book of Mormon.

Analysis of correspondence: Specific and perhaps unusual, but not detailed. Likelihood = 0.1.

5. Cotton and corn cultivated

Coe’s standard: There are many references to corn throughout Coe’s book. This particular quote is important. “[Corn] is so fundamental today that its cultivation and consumption define what it means to be Maya” (p. 242).

“View of the Hebrews” correspondence: p. 74. The Toltecs cultivated cotton and corn. And of course the North American Indians also had corn, as mentioned by Reverend Smith.

Analysis of correspondence: Specific but not detailed nor unusual. Likelihood = 0.5. In contrast, the Book of Mormon puts corn first among the grains, which it was not for the Europeans, but certainly was for the Native Americans, as reflected in the quote from Dr. Coe’s book.

6. Roads were laid out

Coe’s standard: “El Mirador, some 8 miles northwest of Nakbe, and connected to it by a causeway which crosses the intervening bajos” (p. 85). “[At Tikal], ... building complexes interconnected by causeways [called] “white roads.”” (p. 126) “road systems running along the base of those hills, connecting the far reaches of the Palenque kingdom” (p. 151). See also pp. 163 and 182.

“View of the Hebrews” correspondence: p. 74. Toltecs laid out roads.

Analysis of correspondence: This is specific and unusual for its time. Most people in the early 1800s would probably not have thought the Indians to be road builders. Likelihood = 0.1. Therefore, in the Book of Mormon we will not classify the presence of roads as unusual, since *View of the Hebrews* refers to roads (but only once and without any detail).

7. Watchtowers, forts and monuments

Coe’s standard: “The tower ... commands a wide view and could also have served as a watchtower” (p. 151). Dr. Coe does not use the word *fort* to describe the Maya defensive structures. Forts are generally thought of as outposts in hostile terrain, and that is not the sense in which the Maya “fortified” their cities.

“View of the Hebrews” correspondence: p. 77. The Indians had forts, watchtowers and monuments. No details are given in this book on the watchtowers or the monuments, but we limit the Book of Mormon correspondence for watchtowers to 0.1, since *View of the Hebrews* mentions it, again only once and with no details.

Analysis of correspondence: Likelihood = 0.1. Specific and unusual.

8. Walled towns with ditches surrounding them

Coe's standard: "when city walls are found, as at Dos Pilas, Ek' Balan and Uxmal" (p. 126). "the triple defensive wall that surrounds [Ek' Balam]" (p. 194). "Mayapan ... completely surrounded by a defensive wall" (p. 216).

"View of the Hebrews" correspondence: See pp. 77 and 78. Some details provided about the size and extent of the walls.

Analysis of correspondence: This seems specific, detailed, and unusual. Most Americans of the early 1800s probably did not think of the Indians living within cities surrounded by massive walls. Likelihood = 0.02. Since walled towns are mentioned in this book, we do not claim that the Book of Mormon references to walled towns are unusual.

9. Had ornamental objects of copper

Coe's standard: "The many copper bells and other objects from (the Sacred Cenote) were of Mexican workmanship" (p. 212).

"View of the Hebrews" correspondence: "Pieces of copper have been found, ... [one] in the form of a cup." (p. 78). "[A mound in Ohio contained] ornaments of copper, ... medals of copper" (p. 79). "Many ornaments of silver and copper were found" (p. 80).

Analysis of correspondence: Most Americans of the early 1800s probably did not think of the Indians as making copper ornaments and other objects. So this is specific, detailed and probably unusual. Likelihood = 0.02.

10. Many cities built

Coe's standard: To name just a few of the cities mentioned in The Maya we have Uxmal, Chichen Itza, Coba, Tulum, Acanceh, Ek' Balam, Mayapan, Piedras Negras, Ceibal, Palenque, Naranjo, El Mirador, Bonampak, Uaxactun, Kaminaljuyu, Takalik Abaj, Tikal (p. 9) "the great Usumacinta ... draining the northern highlands, ... twisting to the northwest past many a ruined Maya city" (pp. 16–17). "more advanced cultural traits, ... the construction of cities" (p. 26).

"View of the Hebrews" correspondence: See p. 80. Mound builder culture was said to have built 5,000 cities in the eastern U.S. Reverend Smith also refers to Mesoamerican Indian cities.

Analysis of correspondence: The correspondence is specific and detailed as the locations of several of these Native American cities were given. It would have probably been unusual in 1823 for Americans to think of the Native Americans as having built thousands of cities. Specific, detailed and unusual. Likelihood = 0.02.

11. Volcanoes noted in Central and South America

Coe's standard: "The Maya highlands are dominated ... by a great backbone of both extinct and active volcanoes" (p. 14). "the nearby Loma Caldera volcano [destroyed the village of Ceren" (p. 107).

"View of the Hebrews" correspondence: See p. 86. Presence of volcanoes noted in South America. No details are given about what an eruption and associated earthquakes are like from the point of view of the person experiencing them.

Analysis of correspondence: This reference to volcanoes is specific, but not detailed. The existence of volcanoes in Central and South America was probably not widely known in the early American 1800s. Likelihood = 0.1.

12. Covenants between God and man

Coe's standard: "Ultimately, humans were obligated to abide by covenants. A covenant ... is a binding contract that explains how one should behave. Gods were usually involved, as in the case of maize production."

"View of the Hebrews" correspondence: See p. 106. No details are given of these covenants in this book, for example, of the covenant of baptism described in the Book of Mormon.

Analysis of correspondence: The correspondence is specific but not detailed in Reverend Smith's book. It would have been unusual for Americans to think of "savages" entering into covenants with God. Likelihood = 0.1.

13. Offering of first ripe fruits

Coe's standard: "The nature gods must be asked for favors, and duly repaid through ... the first fruits of the harvest" (p. 297).

"View of the Hebrews" correspondence: See p. 106. "the general Indian tradition of offering their first ripe fruits."

Analysis of correspondence: This is specific, but neither book gives details. Again, Indian "savages," following a Hebrew tradition, would probably have been regarded as unusual by the white population in the early 1800s. Specific, unusual, but not detailed. Likelihood = 0.1.

14. "Mexicans" (Mesoamerican Indians) were very skilled in carving wood and stone.

Coe's standard: Coe's book is full of examples of stone carving. "No fewer than 63 stelae were carved and erected in Early and Late Classic times" (p. 132). "The finest May wood carving known, this seated figure from Tabasco, Mexico" (pp. 94-95).

"View of the Hebrews" correspondence: p. 75. "The Mexicans have preserved a particular relish for painting, and for the art of carving in wood or stone." "We are astonished at what they are able to execute with a bad knife on the hardest wood."

Analysis of correspondence: Specific, detailed, and unusual to Americans in the early 1800s. Likelihood = 0.02.

15. Resemblance of American pyramids to Egyptian pyramids

Coe's standard: "Thus it seems that the Temple of the Inscriptions was a funerary monument with exactly the same primary function as the Egyptian pyramids" (p. 157).

"View of the Hebrews" correspondence: See p. 82. This citation does not connect the funerary aspect of at least some of the Maya temples and the Egyptian ones.

Analysis of correspondence: Specific and unusual for the early 1800s, but not detailed. Likelihood = 0.1.

Summary of the Positive Correspondences

There are 15 positive correspondences between *The Maya* and *View of the Hebrews*. Four of these have a likelihood of 0.5, seven a likelihood of 0.1, and four a likelihood of 0.02. The product of these is therefore $0.5^4 \times 0.1^7 \times 0.02^4 = 1.00 \times 10^{-15}$.

These are evidence that supports the hypothesis that *View of the Hebrews* is an authentic record set in ancient Mesoamerica. However, we have not yet applied the evidence against the hypothesis, that is, the negative correspondences between *The Maya* and *View of the Hebrews*. To do so, we must consider and weigh these negative correspondences.

Negative Correspondences between *View of the Hebrews* and *The Maya*

These are correspondences or pieces of evidence in favor of the prior hypothesis, that is, in favor of the hypothesis that the world of the ancient American Indians as given in *The Maya* has nothing to do with the world of the ancient American Indians as given in *View of the Hebrews*. Thus the evidence is weighted as 2 (Bayesian "supportive"), 10 (Bayesian "positive"), and 50 (Bayesian "strong").

1. The ancestors of the American Indians observed the Law of Moses

Coe's standard: Apart from the offering of first fruits, which was accounted for in the summary of Positive Correspondences above, we do not see anything in the summary of religious practices among the Maya that can reasonably be construed as belonging to the Law of Moses.

"View of the Hebrews" correspondence: p. 107: succession of high priests, induction by purification and anointing, yearly atonement, three annual feasts, bones of sacrifice may not be broken, places of refuge, etc.

Analysis of correspondence: If the Maya or their neighbors had practiced the Law of Moses, that would indeed have been specific, detailed, and unusual, for a likelihood of 0.02. In fact, there is no evidence that they did so; thus the likelihood = 50.0.

2. Language of the native Americans appears to have been Hebrew

Coe's standard: If the language spoken among the Maya was Hebrew, that fact has certainly escaped the notice of many hundreds of scholars over decades.

"View of the Hebrews" correspondence: pp. 36, 107.

Analysis of correspondence: Once again, had this claim of *View of the Hebrews* been confirmed by *The Maya*, it would have been specific, detailed, and unusual. But it has not been confirmed. Again, likelihood = 50.0.

3. Indians sometimes practiced circumcision as a religious act

Coe's standard: See these references among others' emphasis on self-sacrifice by blood drawn from ... penis" (p. 13). "One of the four Hunahpus perforates his penis before an offering" (pp. 88-89).

"View of the Hebrews" correspondence: p. 40. The American Indians at some times have practiced circumcision.

Analysis of correspondence: Penis perforation was practiced by royal or noble adults among the Maya as an offering to their gods. Among the Hebrews, circumcision was practiced on infants of all social ranks as the sign of a covenant. The two practices are not the same. Were they the same, or if they strongly resembled each other, that would qualify as specific, detailed, and unusual. But they were not, so likelihood = 50.0.

4. They have acknowledged one, and only one God

Coe's standard: The Maya were almost unbelievably pantheistic. See pp. 157, 160, 166, 168, 234.

"View of the Hebrews" correspondence: pp. 64, 65.

Analysis of correspondence: Polytheism and pantheism are widespread in human history, and so is monotheism, so this cannot be unusual. But it would be specific and detailed if it were observed among both the Maya and the North American Indians. However, that is not so. Likelihood = 10.0.

5. The Indians have a tribe corresponding to the tribe of Levi

Coe's standard: The Levites were a landless tribe, with priestly duties, supported by tithes from the other tribes. There is no mention in Coe's book of such a Maya tribe or people.

"View of the Hebrews" correspondence: See pp. 77 and 78. Some details provided.

Analysis of correspondence: Once again, this would have been specific, detailed and unusual, had it been observed among the Maya. But it has not been observed. Likelihood = 50.0.

6. Indians had a theocracy

Coe's standard: "A hereditary Chief Priest [resided in Mayapan], but in no source do we find his authority or that of the priests superseding civil authority" (p. 243).

"View of the Hebrews" correspondence: See p. 60. No details at all are given about the supposed Indian theocracy.

Analysis of correspondence: There is no mention in *The Maya* of rule by priests. This prediction is specific, but not unusual among a Bible-reading people who might be aware of the Old Testament pattern of rule by religious authorities during part of Israelite history. It is also not detailed in the case of Reverend Smith's book. Likelihood = 2.0.

7. Indians used a lunar calendar and had no name for a year

Coe's standard: The Maya kept their calendars by day, month, and year. They kept multiple calendars. "The Maya Long Count ... is an absolute, day-to-day calendar which has run like some great clock from a point in the mythical past" (p. 25). "How the 260 day calendar even came into being is an enigma. ... Meshing with the 260-day count is a 'Vague Year' or *Ha'b* of 365 days. ... Within the *Ha'b*, there were 18 named 'months' of 20 days each" (p. 64).

"View of the Hebrews" correspondence: See p. 61. "They count time after the manner of the Hebrews. They divide the year into spring, summer, autumn and winter. They number their year from any one of those four periods, for they have no name for a year ... and count the year by lunar months."

Analysis of correspondence: This calendaring system is specific, detailed, and unusual (to Americans in the early 1800s) for both books, but the calendaring systems are not in agreement. Likelihood = 50.0.

8. Indians had no historical records

Coe's standard: *The Maya* is full of all kinds of historical records that were kept by the Maya. For just a few examples, see pp. 177, 226 and 274.

"View of the Hebrews" correspondence: See p. 77. "total absence of all historical records."

Analysis of correspondence: If Reverend Smith's book had noted the extent of historical records present among North American tribes that was present among the Maya, it would have been a specific, detailed, and unusual correspondence. But it was not so. Thus the likelihood = 50.0.

9. Indians called on the name of Jehovah

Coe's standard: The Maya gods have many different names. None of them is Jehovah or anything like that name.

"View of the Hebrews" correspondence: See p. 107.

Analysis of correspondence: Had the Maya used this name as one of the names of their gods, it would certainly have been specific, detailed, and unusual. But there is no evidence that they did use this name. Thus the likelihood = 50.0.

Summary of the Negative Correspondences

There are nine negative correspondences between *The Maya* and *View of the Hebrews*. Seven of these have a likelihood of 50, one has a likelihood of 10, and one has a likelihood of 2. The product of these is therefore $50^7 \times 10^1 \times 2^1 = 1.56 \times 10^{13}$.

There is evidence against the hypothesis that *View of the Hebrews* is an authentic record set in ancient Mesoamerica. We multiply this number by the product of the positive correspondences, which is 1.00×10^{-15} , to obtain 0.0156. This value is then multiplied by the skeptical prior of a billion to one to obtain about 15.6 million to one, or 15,600,000 to one, posterior odds.

Thus following the analysis, we have no reason to change our previous skeptical prior. We do not have any reason to believe that *View of the Hebrews* accurately reflects the world of ancient Mesoamerica as set forth in *The Maya*.

