Introduction
The title of my presentation is taken from the words of Betty J. Stevenson, a faithful Mormon and long-time Relief Society President of her Oakland, California, branch and then ward. This was her first impression of the Mormon religion, at age 39, when the missionaries came to her house:

“They came in and told me the most preposterous story I have ever heard in my life: about this white boy, a dead angel and some gold plates. And I thought, Mmm, I wonder what they're on?”

She is not the only person ever to express the frank and honest view that the story of the coming forth of the Book of Mormon is “preposterous” and unbelievable, much as the biblical stories of the Israelite Exodus and of Jesus is also “preposterous” – a notion seriously advanced by some evangelical Christians, but especially by anti-Christians, based in the latter instance largely on the extraordinary miracles and perceived discrepancies within the Bible. This is not the place to address the many anachronisms or discrepancies to be found in the biblical text, except to say that they far outnumber the claimed anachronisms of the Book of Mormon. I am about to publish a book which addresses both Bible and Book of Mormon difficulties in great detail.

Preposterous
What I want to say here is that the “preposterous” nature of the coming-forth of the Book of Mormon is a singular advantage. Why? Because, if the Book of Mormon cannot possibly be true (based on the unbelievable nature of its coming-forth), all the more reason to accept it as authentic when careful analysis of the text, along with comparison of it with archeology, linguistics, and history shows it to be based on empirical, secular reality. That is, despite all that might be said against it, the preponderance of hard evidence shows the Book of Mormon to be an authentic ancient document. For, according to Thomas Bayes’ Theorem for calculating

probabilities, the preponderance of evidence is enough in such improbable cases to establish likelihood\(^4\) – a likelihood which should be impossible.

After all, both the Bible and Homeric Epic were transmitted to us by ordinary, secular historical means, being copied by scribes for thousands of years. Both describe actual ancient civilizations which are known to have existed. This does not tell us in either case whether the miracles described in those texts actually occurred, but the lesson should be clear:

The “preposterous” origin of the Book of Mormon turns that situation upside-down, and provides the singular advantage that the verifiable, systematic claims in that book not only make it likely to be authentic, but also explicitly buttress the miraculous claims of the Bible. This is an extraordinary legacy of what has rightly become a “Second Witness.”

This should not be taken to denigrate the faith of those who know the Book of Mormon to be true through the witness of the Holy Spirit. Sister Betty Stevenson herself accepted the Book of Mormon on that basis, as have millions of others. Jesus himself praises Peter for his acceptance of the truth by revelation rather than by worldly evidence (Matthew 16:17 “Blessed art thou, Simon Bar-jona, for flesh and blood hath not revealed it unto thee, but my Father which is in heaven”).

At the same time, I agree with the late Carl Sagan that “Extraordinary claims require extraordinary evidence.”\(^5\) We have that extraordinary evidence, and I have brought some of it with me this morning.

Following are several items which I believe provide empirical verification of the authenticity of the Book of Mormon.\(^6\) Some have been published, others have not. All are based on realia, rather than on theological or faith considerations.\(^7\) This is merely a sampler, if you will.

**Mormon’s Codex**

At the outset, as a prime example of what I am discussing here, I highly recommend John Sorenson’s magnum opus: *Mormon’s Codex: An Ancient American Book.*\(^8\) It is well written and

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\(^5\) Sagan, "Encyclopaedia Galactica," *Cosmos: A Personal Voyage*, PBS-TV, Episode 12, Dec 14, 1980, at 1:24 minutes; a quote likely based on earlier such statements by Marcello Truzzi, Pierre-Simon Laplace, and David Hume.


is dedicated to very specific scholarship showing that the Book of Mormon fits tightly into the archeological, chronological, ethnographic, and cultural sequence of certain Mesoamerican civilizations – the only place in the Americas in which such advanced civilizations existed (having writing, astronomy, major cities, huge populations, and technology such as described in the Book of Mormon). This is hard evidence, and a free, detailed summary of the Sorenson volume is available online.⁹ At the FairMormon website, for example.

Sorenson does in this massive volume what anthropologists normally do: Rather than focus on only one artefact or phenomenon, they utilize systems analysis – the use of complex, synchronic, diachronic, and multivariate systems or processes, which can only be discerned via multidisciplinary means.¹⁰

Weights & Measures
I will begin here with an entirely parenthetical entry in the midst of a story about lawyers, judges, and bribery, which the editor encloses within the same basic phrase:

Alma 10:32 “Now the object of these lawyers were to get gain; and they gat gain according to their employ”  
11:20 “Now, it was for the sole purpose for to get gain, because they received their wages according to their employ.”

These inclusios frame the Nephite weights & measures as found in Alma 11:3,5-19,

---


<table>
<thead>
<tr>
<th>silver</th>
<th>gold</th>
<th>grain-measure</th>
<th>equivalents&lt;sup&gt;11&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-onti</td>
<td>42</td>
<td>7</td>
<td>42 x 2&lt;sup&gt;3&lt;/sup&gt; = 336</td>
</tr>
<tr>
<td>onti</td>
<td>limnah</td>
<td>7</td>
<td>7 x 2&lt;sup&gt;3&lt;/sup&gt; = 56</td>
</tr>
<tr>
<td>ezrum</td>
<td>shum</td>
<td>4</td>
<td>2&lt;sup&gt;5&lt;/sup&gt; = 32</td>
</tr>
<tr>
<td>amnor</td>
<td>sean</td>
<td>2</td>
<td>2&lt;sup&gt;4&lt;/sup&gt; = 16</td>
</tr>
<tr>
<td></td>
<td>antion</td>
<td>1 &lt;sup&gt;½&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>senum</td>
<td>senine</td>
<td>1</td>
<td>2&lt;sup&gt;3&lt;/sup&gt; = 8</td>
</tr>
<tr>
<td>shilum</td>
<td></td>
<td>½</td>
<td>2&lt;sup&gt;2&lt;/sup&gt; = 4</td>
</tr>
<tr>
<td>leah</td>
<td></td>
<td>⅛</td>
<td>2&lt;sup&gt;0&lt;/sup&gt; = 1</td>
</tr>
</tbody>
</table>

Alma 11:4 states that these values and names are given by the Nephites, for they did not reckon after the manner of the Jews which were at Jerusalem; neither did they measure after the manner of the Jews; but they altered their reckoning and their measure, according to the minds and the circumstances of the people, in every generation, until the reign of the judges, . . .

We shall test those claims, and at the same time provide a good example of systems analysis (though not presented in the Sorenson book) via close examination of that very limited data on weights & measures delivered to us in just 15 verses of Alma 11 in comparison with the known system in use in Judah, Israel, and Egypt in the 7<sup>th</sup> & 8<sup>th</sup> centuries B.C.

Bill Dever has said: “. . . Now for the first time we can reconstruct the Israelite system fully.”<sup>12</sup>

**Ancient Egypt**

Here, for a start, are some weights traditionally used in Egypt to weigh out scraps or ingots<sup>13</sup> of gold, silver, and copper as payment for other items:

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<sup>13</sup> See the ingots and stone weights pictured in Amihai Mazar, *Archaeology of the Land of the Bible, 10,000-586 B.C.E.* (Doubleday, 1992), 511-512 (figs. 11.32 & 11.33).
EGYPTIAN NEW KINGDOM, LATE, AND DEMOTIC

<table>
<thead>
<tr>
<th>units</th>
<th>Silver <em>diban</em> (<em>dbn</em>)</th>
<th>Silver <em>qite</em> (<em>qdt</em>)</th>
<th>weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Late <em>krkr</em> “talent”</td>
<td>300</td>
<td>3,000</td>
<td>27.3 kg</td>
</tr>
<tr>
<td>7</td>
<td>70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>60</td>
<td>5.18 kg</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NK <em>diban</em></td>
<td>1</td>
<td>10</td>
<td>91 gm = 3.21 oz</td>
</tr>
<tr>
<td>.5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dem 2-<em>qd</em> “stater” = 4 <em>drachme</em></td>
<td>.2</td>
<td>2</td>
<td>18.2 gm</td>
</tr>
<tr>
<td>NK <em>qite</em> = ½ stater = 2 <em>drachme</em></td>
<td>.1</td>
<td>1</td>
<td>9.1 gm = .32 oz</td>
</tr>
</tbody>
</table>

It will be seen here that this aspect of the Egyptian system is decimal in nature, although there are other non-decimal measures in Egypt at the time.

**Coordination with Israelite Sheqel**

Famed archeologist William Dever points out first that the Egyptian decimal system is recalibrated in base-8 by the Israelites, but with the same ratios and designated by the same Egyptian Hieratic numerals, so that an Egyptian Hieratic “10” is marked on Israelite 8-*sheqel* weights:

<table>
<thead>
<tr>
<th>Egyptian <em>qite</em></th>
<th>1</th>
<th>2</th>
<th>5</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
<th>70</th>
</tr>
</thead>
<tbody>
<tr>
<td>Israeliè <em>šeqel</em></td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td>16</td>
<td>24</td>
<td>(32)</td>
<td>(40)</td>
<td>(48)</td>
<td>(56)</td>
</tr>
</tbody>
</table>

Dever notes that the Israelite "basic module" here was the 8-*sheqel* weight = 1 Egyptian *dbn / diban* (= 10 Egyptian *qdt* > Coptic *kite*). We can thus rearrange this same chart to show the Egyptian *diban* and Israelite 8-*sheqel* units, without changing the actual weight equivalents:

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Limestone Dome Weights
Archeologists have found hundreds of Israelite limestone dome weights of the kind pictured here:

Each weight has on top the sheqel-sign 𓊏 (șs or šš\textsuperscript{17}) and then its weight in Hieratic Egyptian. Furthermore, the Hieratic numerals used by the Israelites to represent each unit are the same as the Egyptian usage, but recalibrated such that the Egyptian Hieratic “5” is used by the Israelites on their “4” sheqel weight, and the Hieratic “10” used by the Israelites on their “8” sheqel weight:

\begin{center}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline
\textbf{Egyptian dibon} & $\frac{1}{4}$ & $\frac{1}{4}$ & $\frac{1}{2}$ & 1 & 2 & 3 & 4 & 5 & 6 & 7 \\
\hline
\textbf{Israelite 8-\textasciitilde{seqel}} & $\frac{1}{4}$ & $\frac{1}{4}$ & $\frac{1}{2}$ & 1 & 2 & 3 & (4) & 5 & (6) & (7) \\
\hline
\end{tabular}
\end{center}

\begin{center}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
\hline
\textbf{Egyptian qite} & 1 & 2 & 5 & 10 & 20 & 30 & 40 & 50 & 60 & 70 \\
\hline
\textbf{Israelite \textasciitilde{seqel}} & 1 & 2 & 4 & 8 & 16 & 24 & 32 & 40 & 48 & 56 \\
\hline
\textbf{Egyptian Hieratic} & 𓊏 & 𓊏 & 𓊏 & 𓊏 & 𓊏 & 𓊏 & 𓊏 & 𓊏 & 𓊏 & 𓊏 \\
\hline
\end{tabular}
\end{center}

\textsuperscript{17} Gardiner, \textit{Egyptian Grammar}, 3\textsuperscript{rd} ed., Sign List V6.
Alma 11

What is very intriguing (some of you may have noticed this already) is that the all-too-brief presentation of the Nephite weights & measures in Alma 11 is virtually the same as this Egypto-Israelite system:

<table>
<thead>
<tr>
<th>Egyptian</th>
<th>1</th>
<th>2</th>
<th>5</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
<th>70</th>
</tr>
</thead>
<tbody>
<tr>
<td>Israelite</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td>12</td>
<td>16</td>
<td>24</td>
<td>(32)</td>
<td>(48)</td>
<td>(56)</td>
<td></td>
</tr>
<tr>
<td>Nephite</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td>12</td>
<td>16</td>
<td>32</td>
<td>56</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nephite</td>
<td>⅛</td>
<td>¼</td>
<td>½</td>
<td>1</td>
<td>1½</td>
<td>2</td>
<td>4</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Only the nomenclature is different, although not completely different. Moreover, the Nephite numbers could as easily be listed as identical with the Israelite, and even with “12” inserted following “8” to account for the special Nephite gold antion (= 3 shiblon), which makes the whole system work so much more efficiently. Indeed, one Judahite weight of 12 sheqels is known (marked with Hieratic “15”), but there were surely others.

The weight/value of the Hebrew 8-sheqel unit of 91 gm (at 1/7th mina) precisely matches the Egyptian diban.19

As Bill Dever argues in his demonstration of that Egypticity, ratio and proportion is the thing, the Israelites being free to adapt earlier systems to their own needs without hindrance from any formal Egyptian practice. Thus, this eighth & seventh century B.C. Israelite system redefines or recalibrates use of the Egyptian hieratic decimal numerals 5, 10, 20, 30, and 50, as equivalent to the 4, 8, 16, 24, and 40, inscribed on their own sheqel weights. Below the 8-sheqel weight are the fractional weights, 1, 2, and 4 (also in hieratic), obtained by halving, and above the 8-sheqel level each weight is enlarged by 8, thus leading Matthew Bowman to claim that the system follows base-8 notation.21 As Dever notes, the Israelite "basic module" here was therefore the 8-sheqel weight = 1 Egyptian dbn / diban (= 10 Egyptian qdt > Coptic kîte). Moreover, another smaller system of Israelite weights (the הָרָה gērâ) also used the same

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19 The Classical Israelites simply equated the diban-weight with their 8-sheqel weight, and marked them with hieratic numerals of a type fixed already in the 9th or 10th centuries B.C.. Stefan Wimmer puts that horizon as early as the 19th-20th Dynasties, i.e., the Ramesside period (Wimmer, *Palästinisches Hieratisch*, 11-12,273,275,279), while Raz Kletter sees no such continuity (Kletter, *Economic Keystones*, 146).


hieratic symbols, but at face-value, i.e., decimal values.\(^{22}\) The Israelites clearly knew what they were doing, and had apparently been doing this since at least the time of the united monarchy, as the hieratic signs remain more or less fixed from that period, or proceed to develop on their own from that time forth. The Bible contains no hint of this. Moreover, Egyptian hieratic numerals had even been in use in Late Bronze Age Canaan, Ugarit, and Phoenicia – even though in a differing style of Hieratic.\(^{23}\) Raz Kletter says that “the reform of the inscribed [Judean] weights was probably initiated by state officials or scribes,” using 1\(^{st}\) millennium B.C. “‘a-normal’ Hieratic script, but sometimes written in a peculiar way.”\(^{24}\)

**Comparative Table**

Since none of this takes place in a vacuum, surely reasonable extrapolations are not out of order. I find the isomorphism of the Israelite *sheqel* and Egyptian *qite* here quite interesting. The Israelites reused the already extant Egyptian system of weights & measures to suit their own needs. This comparative table represents a set of alternatives which seems quite relevant.

<table>
<thead>
<tr>
<th>COMPARATIVE TABLE(^{25})</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>diban “round”</strong></td>
</tr>
<tr>
<td>7</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>½</td>
</tr>
<tr>
<td>¼</td>
</tr>
<tr>
<td>1/10</td>
</tr>
</tbody>
</table>


Naturally, all this means that the ancient Near Eastern mina-weight has the identical ratio with the Nephite limnah, and that the 6-onti bribe offered by Zeezrum to Amulek (Alma 11:22,25) is equivalent to (or isomorphic with) 6 ancient Near Eastern minas.

**Relative Values**

Here is my 1998 “Table of Relative Values” chart from the *Journal of Book of Mormon Studies*, which I have edited for this presentation:

<table>
<thead>
<tr>
<th>Nephite gold measure</th>
<th>Nephite silver measure</th>
<th>Lesser numbers</th>
<th>leah</th>
<th>Nephite grain measure</th>
<th>Near Eastern mina</th>
<th>Horus-eye fractions</th>
<th>qdt kite</th>
<th>Israelite sheqel</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-onti bribe</td>
<td></td>
<td>84</td>
<td>336</td>
<td>42</td>
<td>6</td>
<td></td>
<td>420</td>
<td>336</td>
</tr>
<tr>
<td>5-onti</td>
<td></td>
<td>70</td>
<td>280</td>
<td>35</td>
<td>5</td>
<td></td>
<td>350</td>
<td>280</td>
</tr>
<tr>
<td>4-onti</td>
<td></td>
<td>56</td>
<td>224</td>
<td>28</td>
<td>4</td>
<td></td>
<td>280</td>
<td>224</td>
</tr>
<tr>
<td>3-onti</td>
<td></td>
<td>42</td>
<td>168</td>
<td>21</td>
<td>3</td>
<td></td>
<td>210</td>
<td>168</td>
</tr>
<tr>
<td>2-onti</td>
<td></td>
<td>28</td>
<td>112</td>
<td>14</td>
<td>2</td>
<td></td>
<td>140</td>
<td>112</td>
</tr>
<tr>
<td>limnah</td>
<td>onti</td>
<td>14</td>
<td>56</td>
<td>7</td>
<td>1</td>
<td>63/64</td>
<td>70</td>
<td>56</td>
</tr>
<tr>
<td>shum</td>
<td>ezrum</td>
<td>8</td>
<td>32</td>
<td>4</td>
<td>.5</td>
<td>⅝</td>
<td>40</td>
<td>32</td>
</tr>
<tr>
<td>sean</td>
<td>amnur</td>
<td>4</td>
<td>16</td>
<td>2</td>
<td>.25</td>
<td>¼</td>
<td>20</td>
<td>16</td>
</tr>
<tr>
<td>antion</td>
<td></td>
<td>12</td>
<td>1.5</td>
<td>.1875</td>
<td>3/16</td>
<td></td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>senine</td>
<td>senum</td>
<td>8</td>
<td>1</td>
<td>.125</td>
<td>⅛</td>
<td>8/64</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td>.5</td>
<td>.0625</td>
<td>1/16</td>
<td>4/64</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>shilum</td>
<td></td>
<td>2</td>
<td>.25</td>
<td>.03125</td>
<td>1/32</td>
<td>2/64</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>leah</td>
<td></td>
<td>1</td>
<td>.125</td>
<td>⅛</td>
<td>.015625</td>
<td>1/64</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
Maneh / Mina

Both the Nephites and Israelites use the same Egypto-Semitic base and multiples (with notation in hieratic Egyptian for Israelite weights), along with a term for the total (mane) which (as noted by George Reynolds and Janne Sjodahl about a century ago) is phonologically very close to the same term for the same Book of Mormon total, limnah – which exhibits the same numerical ratio as its ancient Near Eastern counterpart.

מָנֶה mane “mina, weight”

Shillum / Shilum

The meanings of some of the other terms fit as well, particularly shilum, shillum (Hebrew “recompense, repayment,” Isaiah 34:8, Hosea 9:7, Micah 7:3), which are only known from the manuscripts (the 1830 and subsequent editions mistakenly have shiblum).

שילום šillûm “recompense, recompense”

Sean / Seon

Most of you are probably aware of the existence of the 5th century B.C. Jewish military colony on Elephantine Island in Upper Egypt, and of the small Jewish temple (with animal sacrifice) built there. An interesting spelling in the Elephantine documents is se’an, instead of the usual biblical Hebrew sē ḥ (“measure.” This a dead ringer for sean (the spelling in the Printer’s Manuscript), the Nephite gold-measure in Alma 11:5,8-9, and Reynolds & Sjodahl correctly suggested that seon be derived from Hebrew sē ḥ, even though it never appears in the KJV Bible in that transliterated form. The Israelite sē ḥ is also represented by the Egyptian Hieratic sign for “⅝” in four Arad Ostraca, and one each at Qudeirat and Tell Jemmeh, i.e., ⅝ ḥq3t-grain-measure.

Biblical Hebrew סֶהֲו sē ḥ “measure”

= Elephantine סָאֵן se’an

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29 Reynolds & Sjodahl, Commentary on the Book of Mormon, IV:282.

30 S. Wimmer, Palästinisches Hieratisch, 259-261, including some unprovenanced items from the Moussaieff Collection.
Shiblon
Of special interest to us also are the various Assyrian-style lion weights found in Palestine at Ein Shemer, Hazor, Tell Jemmeh, and Arad, and one of unknown provenance in the Hecht Museum in Haifa, Israel, because of Hugh Nibley’s suggestion that Book of Mormon shiblon may be derived from the Arabic word for “lion-cub” shibi, together with the old Semitic nominal termination -on. Here are drawings of such weights from Kletter.

Senine and Senum
The 19th and 20th dynasty Egyptian sniw was the word for the basic silver unit of value in the Egyptian tripartite system of pricing for a commodity, and Egyptologist Jac Janssen thinks it obvious that sniw comes from ancient Egyptian snw or snny “price” – probably the source for both the Nephite silver senum and gold senine (both having a unit-value of one, just as the sniw does in Ancient Egypt). From there one can extrapolate to the gold limnah (Alma 11:5,10) as

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31 Kletter, Economic Keystones, 126 and fig. 28.
33 Kletter, Economic Keystones, 126.
34 Jac J. Janssen, Commodity Prices from the Ramessid Period (Leiden: Brill, 1975), 102-109, the copper deben being the basis for another system, and finally the h3r grain-measure system.

Interestingly, the Nephite system is also tripartite, with separate grain, silver, and gold measures.
35 Janssen, Commodity Prices, 103; Rainer Hannig, Groesse Handwörterbuch Ägyptisch-Deutsch (2800-950 v. Chr.) (Mainz: Phillip von Zabern, 1995), 713 snw; 677 swn “buy; sell”; swnt “sales price”; W. Westendorf, Koptisches Handwörterbuch, 2nd ed. (Heidelberg: Carl Winter, 2008), 204 Egyptian swnt > Demotic swn “price” > Coptic souen “value, price” (Crum, Coptic Dictionary, 369b); cf. sene “granary bin, silo; heap, collection” (Crum 343b).
the equivalent of the ancient Near Eastern mina-weight, since the ratio of seven Book of Mormon senines to one limnah/mina fits the equivalent of seven Egyptian dbn “dibs” (= 7 x 8 sheqel-base in Hebrew usage) in just the right proportion. As in the Book of Mormon, these metals were typically used in ancient Egypt in exchange for grain.

**Antion, and Onti / Anti**
These Nephite weights were possibly derived from the ancient Egyptian participle int “bringing; buying,” in gentilic form as *inti; cf. int m “to sell” – from the Egyptian root inw (ini), “produce; tribute; gifts; dues (to be paid),” etc. There was at that time in Egypt no coinage-money, but goods were equated with the weights of copper, silver, and gold.

**American “Bits”**
Knowing nothing of this, Rick Grunder has a very different idea about the source of the weights and measures in Alma 11. He derives the Nephite system from the Colonial American and early United States use of the “bit” system. This system was based on the Spanish silver 8-reales coin which could be chopped into eight pieces or “bits.” Here is a photo of just such an 8-real silver piece or peso de a ocho minted in 1821:

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36 This was first systematically suggested in a 1970 paper by Robert F. Smith, which was reedited by Janet Twigg and published by FARMS in 1983 as “Weights and Measures in the Time of Mosiah II,” Preliminary Report STF-83 (Provo: FARMS, 1983).

37 See Robert F. Smith’s chart (p. 46) and the full discussion by John W. Welch in JBMS, 8/2 (1999):38-45.

38 David O’Connor “New Kingdom and Third Intermediate Period, 1552-664 BC,” in Trigger, Kemp, O’Connor, and Lloyd, Ancient Egypt, 228 fig. 3.10, for chart of fluctuating prices for wheat and barley paid for in copper or silver – 19th through 20th dynasties; Alan Lloyd, “The Late Period, 664-323 BC,” in B. G. Trigger, et al., Ancient Egypt, 328, notes that in the late period the silver could also be weighed by diban or qite (9.53 grams) in exchange for wheat.


40 If the variant readings here are more than simple errors (merely dialectical differences or scribal errors for correct anti), these may all be taken from same source.

41 Černý, *Coptic Etymological Dictionary*, 47; Crum, *Coptic Dictionary*, 78b, eine, ine, ani- (Joshua 2:3), etc.: note in particular nt=, ent=. ont=, anit= (2 Timothy 4:13 “bring”); 79b, nentauetou ebol “bring tax money” (Rylands Papyrus 226).


I next illustrate the basic system here with the Spanish gold escudos (including doubloons) displayed in the first chart:

<table>
<thead>
<tr>
<th>Spanish gold escudos</th>
<th>Spanish silver reales</th>
<th>American bits</th>
<th>weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>128</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>16</td>
<td></td>
<td>2 oz</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>peso de a ocho</th>
<th>8 = $ 1</th>
<th>1 oz</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>4 = 50 ¢</td>
<td>½ oz</td>
</tr>
<tr>
<td>2</td>
<td>2 = 25 ¢</td>
<td>¼ oz</td>
</tr>
<tr>
<td>1</td>
<td>1 = 12 ½ ¢</td>
<td>1/8 oz</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spanish silver reales</th>
<th>Spanish “pieces of eight”</th>
<th>American bits</th>
<th>weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>128</td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>64</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>2</td>
<td></td>
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</tr>
</tbody>
</table>
Americans, along with many other peoples of the world, used the dependable and easily available Spanish coinage for local and international commerce. Grunder thinks he sees some similarity in the “pieces of eight” here, but the system is actually binary (as with many other systems of coinage), and he fails to note the absence of base-8 notation, along with the absence of the consequent totals of “7” or “56” for the limnah (and mina). Moreover, he also misses the absence of the 1 ½ unit (antion) crucial to the Nephite system, which does have a direct corollary in the Israelite system.

Other Etymologies
There are other etymologies of Book of Mormon words defined in the actual text (and not mentioned in Sorenson’s book): Some examples are:

Irreantum
Irreantum, “Many Waters” (1 Nephi 17:5), likely the Egyptian pronunciation of ‘Ir3nt, ‘Irnt\(^{46}\) the Egyptian transliteration for the Orontes, the largest river in Syria. This Egyptian spelling had the water determinative mw at the close,\(^{47}\) which sometimes represents -um,\(^ {48}\) as well as -m in Egyptian group writing,\(^ {49}\) and may thus very well have been vocalized something like *’irantu\(^ {50}\). The name originates in Iranian haeravanta “that of grandeur, greatness,” which is applied to the names of mountains, and to other rivers, as well as to some Armenian kings, and even to the capital city of Armenia, Yeravan (Erewan).\(^ {51}\) In the Avestan (Sassanid) form Arvand, it is another name for the Tigris River and for the confluence of the Tigris & Euphrates Rivers (otherwise known as the Shatt al-Arab waterway) which opens into the Persian Gulf.\(^ {52}\)

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\(^{48}\) Egyptian šmw “summer” > Coptic šôm; Eg. šm > Copt. eiom; Eg. p3-šm “Fayyum” > Copt. fion. This is true in other ways as well, Eg. ‘itmw > Copt. Atoum; Eg. ‘hmw > Copt. ahoum.


\(^{50}\) Cf. James Hoch, *Semitic Words in Egyptian Texts of the New Kingdom and Third Intermediate Period*, §§52, 304; Table 8, and page 508 (mu_j).

\(^{51}\) King Yervand IV was the last king of the Orontid Dynasty (*Wikipedia.org*, online at https://uc.99kk.eu.org/0/?url=bnF2aXJFL2IraXcvZ3JvLmFpZGVwaWtpdy5tLm5ILy9BMvVwdHRo).

\(^{52}\) Avestan (Sassanid) arvand is the translation of Old Persian tigra “sharp; roaring” (Rozbeh Parsapoor, *Arvand River*, 2008, Persian Gulf Studies Center, online at http://www.persiangulfstudies.com/en/ index.asp?p=pages&ID=174), which is the source of the name for the great Tigris River.
Rabbanah

Rabbanah “Powerful, Great King” (Alma 18:13), which is the Aramaic term used for the “Exilarch” in late Judaism,\(^53\) and which is very much like the contemporary neo-Assyrian and neo-Babylonian term rabbâni, râbbânû “high functionary, foreign official, chieftan; administrator of temple property,” which is written syllabically (in Sumerian) as LÚ.GAL “king,” or LÚ.GAL.Dû “King who acts.”\(^54\) Cf. Hebrew râb “great, magnate,”\(^55\) and rabbâ “much” (Proverbs 28:12), “heavy” (Numbers 11:33, Isaiah 30:25),\(^56\) from which are derived Hebrew Rabbâ “great city” (Joshua 13:25, Jeremiah 49:3),\(^57\) and verb “be numerous, increase, become powerful.”\(^58\)

Rameumptom

Rameumptom “Holy-Stand; a place of standing which was high above the head” (Alma 31:13, 21, 23, place of Zoramite “standing” and prayer) = hypothetical Hebrew *râmê-‘omedâm “Their-high-standing-places” (cf. 2 Nephi 20:33 ||Isaiah 10:33 râmê- “high ones of”; Nehemiah 8:7, 9:3, 13:11 ‘omdâm “their standing, their place”). Even more striking, the set Rameumptom prayer given by each Zoramite is very much like an early version of the most important of Jewish prayers, the ‘Amida\(^59\) -- a prayer which is said “standing.”

Mulek / Muloch

The late Professor Yohanan Aharoni believed that MalkiYahu was a name “borne by a contemporary son of King Zedekiah,” based on the name’s appearance several times in Arad inscriptions as well as in Jeremiah 38:6. In 1978, Professor Joseph P. Schultz said that it is “quite possible” that Mulek is a variant of the word melek “king.” Thus, a short-form of the name in the Hebrew qutl-form is certainly possible (with anaptyctic vowel), and in 1984 Professor David Noel Freedman told me personally that the Book of Mormon naming the son of Zedekiah Mulek: “If Joseph Smith came up with that one, he did pretty good!” Freedman then suggested that Mulek might be Phoenician in vocalization.

Other etymologies, though not defined in the text, also fit rather well:

Paanchi and Pahoran / Pahoron

The late William F. Albright signed two letters (1949 and 1966) stating frankly that the Book of Mormon names Paanchi and Pahoran are certainly good Egyptian names, and told Hugh Nibley the same when Nibley was on Sabbatical at Johns Hopkins University (1953-54). Egyptian p3

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\(^{54}\) *CAD* “R” 9, 19 (S-6 rab-banûtu = LÚ.GAL.Dû-ú-tú/tu); Black, et al., *Concise Dictionary of Akkadian*, 4-5 (participle).
\(^{56}\) *HALOT*, III:1171-1172.
\(^{57}\) *HALOT*, III:1178.
\(^{58}\) *HALOT*, III:1175.
means “the,” and *pa*-names were commonly used for personal and place names (such as *Pathros*, “The Land Southward, i.e. Upper Egypt”). Note that the sons of Pahoron₁ are Pahoron₂, Paanchi, and Pacumeni, all high caste Nephites (Alma 50:40, Helaman 1:3), while one of their enemies is named Pachus (Alma 62:6-9), suggesting the popularity of *pa*-names in that time and place.

Many more names could be listed, and a complete listing is available online.⁶⁰

Epistolary Form
Epistolary form is another systematic example: The six main Book of Mormon epistles never violate the ancient Hittite-Syrian, Neo-Assyrian, Tell El-Amarna, and Hebrew format in which the superior is virtually always listed first, which is not a feature of letter-writing either in New Testament and other Hellenistic letters, nor in letters contemporary with Joseph Smith.⁶¹

Covenant formulary
The ancient biblical and treaty covenant pattern is presented in full in II Nephi 5-10, and in King Benjamin’s address (Mosiah 2-5).⁶²

Oath Formulae
Formal Biblical Oath formula: 1 Nephi 3:15, 4:33, 21:18 are fully authentic.⁶³

“Anthon Transcript”
The “Caractors” on the so-called “Anthon Transcript” (RLDS Archives), or “Memento” given to Oliver Cowdery, were judged by two non-Mormon Egyptologists to be Egyptian cursive: William C. Hayes and Richard A. Parker, both now deceased. Hayes even provided Mormon graduate student Stanley Kimball with his translation notes of several hieratic characters on the first line as a date formula (copy in my possession). There is even an Egyptian hieratic character for *mr-mn* which Frederick G. Williams said he got from Joseph Smith and which meant “Mormon.” It has since been published, and appears to be authentic Egyptian.⁶⁴

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So why were Book of Mormon scribes and editors engraving their records in Egyptian on metal plates? Is there precedent for such a thing?

**Plates of Brass**

Jacob explains the bare fact that the metal Plates were preferable to perishable materials (Jacob 4:2), but nowhere in the Bible do we find any sort of explanation as to why such a record would be engraven on brass (bronze) in Egyptian. In addition, as I have suggested, only by means of archeology in recent decades has it become clear that professional Hebrew scribes actually used Egyptian hieratic.65

**Chronology**

Book of Mormon chronology is strikingly annalistic and precise from beginning to end, and three dates in particular can and must be tightly coordinated with each other:

1. beginning of the first year of the reign of Zedekiah, king of Judah (I Nephi 1:4);
2. birth of Jesus 600 years after that first year of Zedekiah (I Nephi 10:4, Helaman 14:2, III Nephi superscription, 1:1, 2:8);
3. death of Jesus at age 33 years and 3 days old (III Nephi 8:5).

Since virtually all scholars are certain that Nebuchadrezzar of Babylon placed Zedekiah on the throne by 10 Nisannu (= 22 April) 597 B.C.,66 it turns out that the only system which can coordinate those three dates effectively is the 360-day year (the Mesoamerican “Long Count”). Moreover, since we know that Jesus was Crucified at Passover, we can also say with certainty that 33 years earlier would have lost 6 months in solar years, placing his birthdate within the Jewish New Year & Tabernacles festivals in the Autumn. Thus, scholarly consensus that Jesus could not have been born later than 5 B.C. (Herod the Great died in early 4 B.C.) is fully supported by the Book of Mormon. Biblical chronology does not fare as well.

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66 On 2 Addaru in his 7th year (= 16 March) 597 B.C., Nebuchadrezzar had captured Jerusalem and taken King Jehoiachin prisoner: "the most exact information to come from cuneiform records for an event recorded in the Bible, and gives us a precise day for the fall of Jerusalem and the capture of Jehoiachin" (J. Finegan, *Handbook of Biblical Chronology*, 2nd ed., §437, citing A. Green, "The Last Days of Judah," *JBL*, 101 [1982], 68-73. Actually even to even, 15 to 16 March 597 B.C. = 2 Addaru; Miller & Hayes, *A History of Ancient Israel and Judah*, 2nd ed., 254).
However, 360-day years are not used only in the New World: see, for example, Frederick A. Larson, “The Star of Bethlehem” (Mpowerpictures, 2007), using “Starry Night” software – Larson demonstrates that 360-day years are used at Revelation 11:3-4, in which 42 months = 1260 days, with months of 30 days each, and 360-day years; then, 7 x 7 = 49, 7 x 62 = 434, and 49 x 434 = 483, but 483 years x 360 days each = 173,880 days, which = 476 years in our 365.24 day solar calendar.

More on Elephantine
When Cambyses II of Persia entered Egypt in 525 B.C., he found a five-gated Jewish temple and a Jewish military colony already ensconced at Elephantine Island in Upper Egypt. The Jewish mercenaries of that colony may have been placed there by a pharaoh of the 26th Dynasty such as Apries or Amasis II, although they may have been there much earlier (Isaiah 49:12 "Syene/Aswan"), i.e., in the mid-7th century B.C., during the reigns of Manasseh of Judah and of Pharaoh Psammetichus I of Egypt.

This leads us to more comments on the etymology of more Book of Mormon names:

-ihah
Hugh Nibley already commented on the complete absence of Ba’al names from both Elephantine documents and the Book of Mormon. What is also worth noting is the presence there of a unique version of the divine name YHH (Bigrammaton) on both ostraca and papyri, instead of the standard Hebrew Tetragrammaton YHWH “Yahweh, Jehovah.” It seems quite likely that this is the source of the otherwise inexplicable suffix -ihah on the Book of Mormon names, Ammonihah, Cumenihah, Moronihah, Mathonihah, Nephihah, Onihah, Orihah, and Zemnarihah, most of whom have short-forms (hypocoristica) as well. Köhler & Baumgartner saw it as a version of the divine name -iah. Jo Ann Hackett (non-Mormon scholar), therefore, suggested in the case of Ammonihah that the meaning could be “Yahweh is (my) faithfulness.”

Documentary Analysis
The great German biblical scholar, Julius Wellhausen, revolutionized serious study of the Bible with his formulation of the Documentary Hypothesis that the Pentateuch was a melding of several different documents (JEDP), including “E”, an Elohistic document from the kingdom of North Israel, and “J”, a Jahwistic document from the southern Kingdom of Judah.

John L. Sorenson long ago provided us with the first analysis of the Book of Mormon based on that Documentary Hypothesis, concluding that it is an “E” Elohistic/Ehrahimite (north Israelite) document, rather than a southern “J” Jehovah/Judahite document. This is consonant with

67 DVD available at www.bethlehemstar.net.
70 Köhler & Baumgartner, HALOT, II:395.
Lehi’s heritage as a Manassite (Alma 10:3; cf. 1 Nephi 5:14-16), and with the special record kept on Brass Plates, which was probably brought to Jerusalem by a northern clan during the Assyrian conquest of the Northern Kingdom. Noteworthy, for example, is the contempt for David & Solomon of the tribe of Judah (Jacob 2:23-24). David Bokovoy has just published the first volume in a three-volume study of the documentary analysis of the Bible, with comments *inter alia* on Mormon Scripture.

Which brings us to the nitty gritty of source analysis and textual criticism:

**Source Analysis & Textual Criticism**

Bill Hamblin observed on the Mormon Dialogue and Discussion Board blog a couple of years ago, that

> It is interesting to note that the self-description of the editorializers of the BOM reflect precisely the type of editing that is often posited to have occurred in the Bible. That ancient scripture went through a complex editorial process as found in the BOM is consistent with modern theory, but radically inconsistent with biblical theory of the early 19th century.

As Sidney Sperry pointed out long ago, the Book of Mormon text follows very early manuscript readings, about which Joseph could have known nothing, but which reflect the work of much earlier editors and redactors than those who have given us the Old Testament as we know it today.

According to Lawrence Schiffman, the Ketef Hinnom inscriptions indicate the existence of some sort of pre-exilic biblical text of the book of Numbers. Evidence of an early *textus receptus* of the Old Testament within the Bronze (Brass) Plates as well as upon the 24 gold Plates of Ether is also shown by examples such as the following:

In its reference to the “Great Tower” story (Omni 22, Helaman 6:28, Ether 1:33), the Book of Mormon never refers to “Babel,” which some biblical scholars consider to be an Exilic or post-Exilic editorial insertion into the text at Genesis 11:9. Instead, the “great tower” and “confusion

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74 Schiffman lecture Q&A at BYU, March 20, 2014.
of tongues” episode in both Genesis 11:1-9 and Ether 1:33-37, recall the much earlier Sumerian “Golden Age” passage in which “the whole universe, the people in unison, to Enlil in one tongue (eme-aš-ām) gave praise,” followed shortly by the struggle between Enlil and Enki, lord of Eridu, who “changed the speech in their mouths, put contention into it, into the speech of man that (until then) had been one.”

Resumptive Repetition

Editorial technique can be transparent evidence of antiquity. For example, William M. Schniedewind observes that the Persian period Chronicler inserted some material into a verse in 1 Kings 14:25, and used “a common editorial technique in the Bible (known as a ‘repetitive resumption,’ or Wiederaufnahme)” to give notice of his expanded text in 2 Chronicles 12:2-9, i.e., he repeated the same phrase as an envelope construction at the beginning and end of that addition to the text.

Several good examples of Wiederaufnahme can be found in the Book of Mormon. Several good examples of Wiederaufnahme can be found in the Book of Mormon.

The discrete section of 1 Nephi 11 - 14, which begins and ends with “the things which/that my father saw/had seen” (11:1 | 14:29) and “I was carried/caught away in the spirit” (11:1 | 14:30), and which even closes with a colophon and “Amen” (14:30). Nephi is clearly the editor in those instances. We have already seen the example which can be found in Mormon’s interruption of his story about Alma & Zeezrum by inserting a brief snippet from the Nephite monetary system (Alma 11), after which he takes up where he had left off by repeating nearly the same words, followed by parallel material about Antionah (Alma 12):

Alma 10:32 |11:20, “Now the object of these lawyers was to get gain; and they got gain according to their employ” ||“Now, it was for the sole purpose to get gain, because they received their wages according to their employ.”

Punning

The monetary designations of the ezrum of silver and the antion of gold disclose the metonymous word-play of the names Zeezrum and Antionah as “moneymen (Silverman & Goldman),” as discussed first by Gordon Thomasson.

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Another example of punning in name-formation can be found for the place-name Jershon, the land near the east sea, and south of land Bountiful, given “for an inheritance” to the people of Ammon (Alma 27:22 - 43:25). The etymology is likely hypothetical Hebrew *Yēršôn “Place of Inheritance,” with the nominalizing ending -on, from yāraš, “to inherit” (Alma 27:22, “for an inheritance,” 24, 35:14, all with puns). 78

Conclusion

Taken in no particular order, this has been a limited appraisal of some systematic features of the Book of Mormon which belie any claim that it is fiction. One could go on with many more such features 79 in response to those who present lists of claimed anachronisms. The problem with a sole focus on claimed anachronisms is not only that many of those anachronisms are not anachronistic at all, but that anachronisms are a feature of every literature, whether historical or fictional. The Bible, for example, has many more anachronisms than the Book of Mormon, and an entire literature (apologetic literature) has grown up in defense of the authenticity of the Bible. Of course, as in the case of the Book of Mormon, those who attack the Bible always minimize any evidence contrary to their claims, and never discuss the authentic indicators in biblical texts and in related archeological data. That sort of monomania crushes any possibility of meaningful repartee.

Entire chapters have long since been written on all these subjects, which are here merely summarized. Additional explanation and documentation are available on request. The upshot of all these short comments is that Joseph Smith could not have known enough about the ancient world to have gotten these entire systems right. Secular scholarship on these matters has only become available in more recent times.

At the very least, as Grant Hardy has put it:

If the Book of Mormon is a work of fiction, it is more intricate and clever than has heretofore been acknowledged. 80

It is high time that those who consider the Book of Mormon to be fictional at least be familiar with the actual nature of the Book of Mormon, as well as familiar with that portion of the

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80 Hardy, Understanding the Book of Mormon: A Reader’s Guide, xv.
ancient world from which it comes (or claims to come). How else can they expect to make a fair judgment on its authenticity?