

## Chapter 16

### 1 Nephi 16:2 **The Guilty Taketh the Truth to Be Hard; For It Cutteth Them to the Very Center:**

From a modern perspective, we interpret the phrase “cutteth them to the very center” much in the same manner that we interpret the phrase “get to the heart of the matter.” That is, that something affects people “to their very core.” However, this language that Nephi uses can also be interpreted from a covenant perspective. In the ancient covenant ceremony, an animal such as a calf would be sacrificed (symbolizing a “blood covenant”) and its body cut down the very center, after which those making the covenant would walk through the middle of the two halves of the sacrificed animal. This symbolized the seriousness and the penalty of breaking the covenant. So when Nephi writes that his brothers complained that the truth was “hard,” and that it “cut them to the very center” the language used by Nephi is what I call “covenant language” because it alludes to the covenants that have been made between the Lord and his covenant children here on earth.

[Alan Miner Personal Notes]

### 1 Nephi 16:6 **Now All These Things Were Said and Done As My Father Dwelt in a Tent in the Valley Which He Called Lemuel:**

After an unspecified amount of time, Nephi records: "Now all these things were said and done as my father dwelt in a tent in the valley which he called Lemuel" (1 Nephi 16:6). We at least know, however, that Lehi's family dwelt in the wilderness of Arabia long enough for:

(1) Nephi & his brothers to return to Jerusalem to seek out Laban, make a round trip to their land of inheritance to obtain gold & silver, obtain the plates of brass, hide for some time in a cave, and then make the return trip to the valley of Lemuel.

(2) Lehi & Nephi to extensively read and ponder the plates of brass such that they knew and understood their content in depth.

(3) Nephi & his brothers to return to Jerusalem after Ishmael & his family. ( The time it took for Ishmael and his family to set their affairs in order is not recorded. The return trip to the valley of Lemuel was delayed by quarreling.)

(4) Lehi & Nephi to be prepared by the Lord through visions and the understanding of those visions.

[Alan C. Miner, Personal Notes]

#### 1 Nephi 16:6 **All These Things Were Said and Done As My Father Dwelt in a Tent:**

George Potter and Richard Wellington write that they were confused for a long time as to why Nephi would inform the reader multiple times that Lehi "dwelt in a tent" (see 1 Nephi 2:15, 9:1; 10:16; 16:6). They note that they had stopped to take a photo of a Bedouin tent on the edge of the desert. A woman came out with her husband to pose. They couldn't help but notice inside the tent the family's entire possessions could be wrapped into a couple of bed rolls; a few pots and pans, plates, cups and a few blankets. Here this noble man stood, his *thawb* (Arab clothing) threadbare in places. Lehi left his house, gold, jewelry and land, and lived in a tent like a poor man, yet he never complained about leaving his possessions behind. Moreover, Lehi and his wife Sariah, along with Nephi and Sam were blessed abundantly by the Lord in these humble circumstances. What a contrast we see in Laman and Lemuel, who never let Lehi forget that they wanted to return to their wealth and circumstances at Jerusalem. [George Potter & Richard Wellington, Discovering Nephi's Trail, Chapter 2, p. 10, Unpublished] [See the commentary on 1 Nephi 2:15]

#### 1 Nephi 16:6 **Now All These things Were Said and Done As My Father Dwelt in a Tent:**

According to Terrence Szink, to better understand any writing, we need to consider several issues: when it was written, who wrote it, what the author's purpose was, and what ideas or attitudes may have influenced the author.

The first six verses of 1 Nephi 16 can best be understood when seen as the conclusion of the previous section, 1 Nephi 8 through 15. These chapters contain visions, prophecies, and finally an explanation by Nephi to his hardhearted brothers. Laman and Lemuel complained that Nephi had spoken "hard things" to them. He responded by reasoning that the teachings were hard only to those who were condemned by them. Verse 6 seems to conclude this section: "Now all these things were said and done as my father dwelt in a tent in the valley which he called Lemuel."

[Terrence L. Szink, "To a Land of Promise," in Studies in Scripture: Book of Mormon, Part 1, pp. 60-61]

Note\* In my view Terrence Szink is right about the six verses, but he didn't go far enough. The following is my structuring of the first EIGHT verses of chapter 16:

*The Justice of the Lord's Covenant Way Offends the Wicked  
Humble Obedience Gives One Hope*

**1 And now it came to pass**

that after I, Nephi, had made an end of speaking to my brethren,

behold

they said unto me:

Thou hast declared unto us hard things,  
more than we are able to bear.

**2 And it came to pass**

that I said unto them

that I knew that I had spoken hard things against the wicked,  
according to the truth;  
and the righteous have I justified,  
and testified that they should be lifted up at the last day;

wherefore,

the guilty taketh the truth to be hard,  
for it cutteth them to the very center.

**3 And now my brethren,**

if ye were righteous  
and were willing to hearken to the truth,  
and give heed unto it,  
that ye might walk uprightly before God,  
then ye would not murmur because of the truth,  
and say: Thou speakest hard things against us.

**4 And it came to pass**

that I, Nephi, did exhort my brethren, with all diligence,  
to keep the commandments of the Lord.

**5 And it came to pass**

that they did humble themselves before the Lord;  
insomuch that I had joy  
and great hopes of them,  
that they would walk in the paths of righteousness.

**6 *Now, all these things were said and done as  
my father dwelt in a tent in the valley which he called Lemuel.***

*Nephi Enters into the Covenant of Marriage  
Both Nephi & Lehi Have Kept Their Covenants with the Lord*

**7 And it came to pass**

that I, Nephi, took one of the daughters of Ishmael to wife;

and also, **my brethren took of the daughters of Ishmael to wife;**  
and also Zoram took the **eldest daughter** of Ishmael to wife.

**8 And thus my father had fulfilled all the commandments of the Lord which had been given unto him.**

**And also, I, Nephi, had been blessed of the Lord exceedingly.**

These verses are summarizing the process of covenant commandments and covenant obedience that has just been described in the previous chapters.

[Alan Miner Personal Notes]

**1 Nephi 16:6 All These Things Were Said and Done As My Father Dwelt in a Tent:**

Nephi did not record how long they camped in the valley of Lemuel before he knew that they would never return to Jerusalem. Of this period Nephi wrote only that "all these things were said and done as my father dwelt in a tent in the valley of Lemuel" (1 Nephi 16:6). Nephi will say later in his record that they "did sojourn for the space of many years, yea, even eight years in the wilderness. And we did come to the land which we called Bountiful" (1 Nephi 17:4-5). Thus, according to Potter and Wellington, eight years would elapse from the time they left Jerusalem until they arrived at their last camp in Arabia.

Strabo wrote that a caravan journey from "Minaea to Aelena" (Yemen to Aqabah) took seventy days.<sup>i</sup> Nigel Groom, an expert on the Frankincense trade, estimates that a commercial camel caravan could travel from Gaza to the Frankincense growing area at Dhofar in southern Arabia in 69-88 days. He estimates the entire distance as 2,110 miles.<sup>ii</sup> The difference between 88 days and 8 years suggests that Lehi might have lived in the fertile valley of Lemuel for some time. Lehi's family appears to have been comfortable in the valley of Lemuel and probably felt no urgency to move on. Nephi would describe their time in the valley as a period of his life when he was "blessed by the Lord exceedingly" (1 Nephi 16:8).

[George Potter and Richard Wellington, Discovering The Lehi-Nephi Trail, Unpublished Manuscript, 2000, p. 69] [See the commentary on 1 Nephi 17:4]

**1 Nephi 16:6 All These Things Were Said and Done As My Father Dwelt in a Tent:**

Concerning Lehi's stay in the valley of Lemuel, Lynn and Hope Hilton write that here they may have stayed for as long as four very busy years, which would have included twice sending the sons back to Jerusalem on errands, travel time being a month each trip plus time needed to prepare for and recuperate from the journeys plus the days spent haggling with Laban and collecting the family's gold and silver. There followed long days of studying and

digesting the teachings of the brass plates. How long would it take to read thoroughly most of the Old Testament, carefully thinking out its teachings, and then present them to a large family? And when Ishmael and his family joined Lehi's family, there would have been preparations for the five weddings, with the celebrations that followed.

It is also probable that Lehi would have used the time profitably by planting crops. This seems to be indicated by Nephi's statement when the colony was about to leave the Valley of Lemuel: "We did gather together whatsoever things we should carry into the wilderness, and all the *remainder of our provisions which the Lord had given unto us; and we did take seed of every kind.*" (1 Nephi 16:11)

The Bible tells us that Midian (the name for the region where the valley of Lemuel was located) had supported an animal population of over 800,000 head just 800 years previous. (see Numbers 31:32-34) Consequently, it must have been more fertile than the eroded landscapes that the Hiltons looked at as they journeyed from Jerusalem. [Lynn and Hope Hilton, Discovering Lehi, pp. 54-55, 50, 70]

#### **1 Nephi 16:7 [We] Took of the daughters of Ishmael to Wife:**

According to Reynolds and Sjodahl:

Ishmael and his family were brought down from Jerusalem by Nephi and his brothers, according to a divine command. (1 Ne. 7:2) Marriage for the purpose of raising up posterity 'unto the Lord' was enjoined upon them as a sacred duty.

Ishmael had five daughters and two sons. During the journey from Jerusalem to the Valley of Lemuel, Laman and Lemuel opposed Nephi. They even bound him and plotted his death. Two of the daughters of Ishmael sided with Laman and his supporters. One daughter of Ishmael stood up valiantly for Nephi, and plead so sincerely for his righteous cause that he was set free. (1 Nephi 7:19) Thus a line of cleavage was already drawn. In all probability, the two girls who had sided with Laman and Lemuel became their wives, while the valiant little girl, possibly the youngest of them, joined her hero in the sacred relationship contemplated. There were two girls left. Zoram, the servant of Laban, married the oldest daughter, and Sam presumably the remaining girl.

[Reynolds and Sjodahl, Commentary on the Book of Mormon, vol. 1, p. 165]

#### **1 Nephi 16:7 I Nephi Took One of the Daughters of Ishmael to Wife:**

According to John Sorenson, when we consider the interrelations between Ishmael's

and Lehi's families, the age distribution of Ishmael's offspring probably was about like this:

<i>Child</i>	<i>Age on Leaving Jerusalem</i>
Daughter 1 (married Zoram)	31
Son 1	29
Son 2	26
Daughter 2 (married Laman)	24
Daughter 3 (married Lemuel)	21
Daughter 4 (married Sam)	19
Daughter 5 (married Nephi)	16

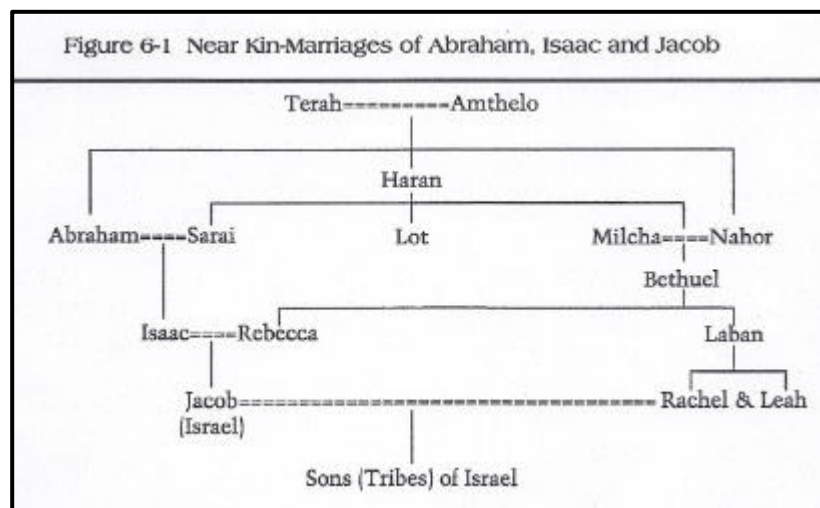
(The order and ages of Daughter 1 and Son 1 might be reversed.)

[John L. Sorenson, "The Composition of Lehi's Family" in *By Study and Also by Faith*, Vol. 2, F.A.R.M.S., p. 187] [See the commentary on 1 Nephi 17:1]

**1 Nephi 16:7 I Nephi . . . and Also, My Brethren Took of the Daughters of Ishmael to Wife:**

The Hiltons suggest that if Ishmael and Lehi were related (see the Erastus Snow statement in commentary on 1 Nephi 7:1), all the marriages between the sons of Lehi and the daughters of Ishmael (1 Nephi 16:7) would be condemned under our modern laws and statutes, but not under the law of Moses.

Perhaps the best known consanguineous marriages were those of Abraham, Isaac and Jacob (see illustration).



In one non-biblical account Abraham married Sarai, his brother's daughter (Jasher 12:44). The

Bible says she was Abraham's half-sister (Genesis 20:12). Isaac married Rebecca, his double first cousin once removed (his mother's sister's granddaughter and his father's brother's granddaughter). Jacob married Rachael and Leah, his first cousins (his mother's brother's daughters).

Among desert tribes of today, cousin marriages are a common practice. . . . Additionally in ancient times and continuing to the present in the Middle East, marriages were not love marriages but were arranged by the parents. Indeed, in many cases the bride and groom met for the first time on their wedding day. . . . This pattern may appear strange to the liberal western mind. . . . More especially it would have been strange to the mind of Joseph Smith. [Lynn M. and Hope A. Hilton, Discovering Lehi, pp. 69-74]

### 1 Nephi 16:7-20 (Many “ands” )

According to Donald Parry, parallelism is universally recognized as the characteristic feature of biblical Hebrew poetry. (p. i)

Apparently, the prophets and writers of the scriptures employed the repetition of alternating parallel lines for the purpose of reinforcing their teachings and doctrines. (p. x)

Polysyndeton is a Greek word used to describe the repetition of the conjunction "and," found at the beginning of successive phrases or sentences. This figure binds a passage or verse together into a central thought or unified idea. A good example of Polysyndeton is found in 1 Nephi 16:7-20)

- 7        And it came to pass that I, Nephi, took one of the daughters of Ishmael to wife;  
          and also, my brethren took of the daughters of Ishmael to wife;  
          and also Zoram took the eldest daughter of Ishmael to wife.
- 8        And thus my father had fulfilled all the commandments of the Lord which had been given  
          unto him.  
          And also, I, Nephi, had been blessed of the Lord exceedingly.
- 9        And it came to pass that the voice of the Lord spake unto my father by night,  
          and commanded him that on the morrow he should take his journey into the wilderness.
- 10       And it came to pass that as my father arose in the morning,  
          and went forth to the tent door, to his great astonishment he beheld upon the ground  
              a round ball of curious workmanship;  
          and it was of fine brass.  
          And within the ball were two spindles;  
          and the one pointed the way whither we should go into the wilderness.
- 11       And it came to pass that we did gather together whatsoever things we should carry  
          into the wilderness,  
          and all the remainder of our provisions which the Lord had given unto us;

- and we did take seed of every kind that we might carry into the wilderness.
- 12 And it came to pass that we did take our tents  
and depart into the wilderness, across the river Laman.
- 13 And it came to pass that we traveled for the space of four days, nearly a south  
southeast direction,  
and we did pitch our tents again;  
and we did call the name of the place SHAZER.
- 14 And it came to pass that we did take our bows  
and our arrows,  
and go forth into the wilderness to slay food for our families;  
and after we had slain food for our families we did return again to our families in the  
wilderness, to the place of Shazer.  
And we did go forth again in the wilderness, following the same direction, keeping in the  
Most fertile parts of the wilderness, which were in the borders near the Red Sea.
- 15 And it came to pass that we did travel for the space of many days, slaying food by the way,  
with our bows  
and our arrows  
and our stones  
and our slings.
- 16 And we did follow the directions of the ball, which led us in the more fertile parts of the  
wilderness.
- 17 And after we had traveled for the space of many days, we did pitch our tents for the  
space of a time, that we might again rest ourselves  
and obtain food for our families.
- 18 And it came to pass that as I, Nephi, went forth to slay food, behold, I did break my  
bow, which was made of fine steel;  
and after I did break my bow, behold, my brethren were angry with me because of  
the loss of my bow, for we did obtain no food.
- 19 And it came to pass that we did return without food to our families,  
and being much fatigued, because of their journeying, they did suffer much for the  
want of food.
- 20 And it came to pass that Laman  
and Lemuel  
and the sons of Ishmael did begin to murmur exceedingly, because of their sufferings  
and afflictions in the wilderness;  
and also my father began to murmur against The Lord His God; yea,  
and they were all exceedingly sorrowful, even that they did murmur against the Lord.

[Donald W. Parry, The Book of Mormon Text Reformatted according to Parallelistic Patterns,  
F.A.R.M.S., pp. 29-30 ]



**1 Nephi 16:8 I, Nephi, Had Been Blessed by the Lord Exceedingly:**

Near the end of a somewhat lengthy stay in the valley of Lemuel, Nephi writes: "my father had fulfilled all the commandments of the Lord which had been given unto him. And also, I, Nephi, had been blessed of the Lord exceedingly" (1 Nephi 16:8). There is a perspective to the physical attributes of the valley of Lemuel that is seldom thought about. George Potter writes:

One final question should be discussed pertaining to the [valley of Lemuel]. It is not a direct query about physical attributes of the site, but how the sight of this natural monument [the canyon oasis at the southern end of the Wadi Tayyib al-Ism] has made me feel each of the four times I have visited there. Each time I ask myself, "Why did the Lord have Lehi bring his family into the wilderness? Why didn't He have the family flee to Egypt or Greece or into a village deep in Arabia?" Instead, the Lord commanded Lehi to bring his family into the desert, where he preserved them with a river of water in a firm, steadfast and immovable valley. Why such a place? And why such grand statements of nature?

I believe there are several reasons for such a natural setting. Could there be a more powerful and striking expression of the creation and the power of God? A river of pure water flowing in an otherwise totally dry wasteland. Lehi was "obedient unto the word of the Lord," wherefore he did as the Lord commanded him. He "departed into the wilderness" (1 Nephi 2:2) In what was a matter of days, Lehi's family went from a comfortable home with gold and silver, to a barren waste looking for the means to survive. Undoubtedly Lehi feared that his family would perish unless they found water. No wonder Nephi delighted in the words of Isaiah (2 Nephi 25:5):

When the poor and needy seek water, and there is none, and their tongue faileth for thirst,  
I the Lord will hear them, I the God of Israel will not forsake them.  
I will open rivers in high places, and fountains in the midst of the valleys:  
I will make the wilderness a pool of water, and the dry land springs of water. (Isaiah 41:17-18)

Nephi must have taken courage from the Lord's assurance that he "leadeth thee by the way thou shouldst go" and that those who trust in him "thirsted not" because "he led them through the deserts" and "caused the waters to flow out of the rock for them" (1 Nephi 20:17, 21; see also Isaiah 48:17, 21). Moreover, continuing the desert imagery: "They shall not hunger nor thirst, neither shall the heat nor the sun smite them; for he that hath mercy on them shall lead them, even by the springs of water shall he guide them" (1 Nephi 21:10; see also Isaiah 49:10)<sup>iii</sup>

The Qur'an reminds the Bedouins living in this same desert today of this ageless

principle, "He is the Most Gracious: we have believed in Him, and on Him we put our trust, . . . If your stream be some morning lost, Who then can supply you with clear-flowing waters?" (Qur'an 67:29-30) Undoubtedly [Nephi] knew the answer to that question, the Lord is the "fountain of living waters" (Jeremiah 2:13). [Nephi] had entered the same wilderness as Moses, and probably for the same reason, to be taught a deeper understanding of and dependence on God [in order to lead the children of Israel through the wilderness to the promised land]. "He found him in a desert land, and in the waste howling wilderness; he led him about, he instructed him, he kept him as the apple of his eye" (Deuteronomy 32:10).

William Wordsworth penned, "Two Voices are there; one is of the sea, One of the mountains; each a mighty Voice." <sup>iv</sup>

For the prophet, to camp in the wilderness by a pure spring was a time for healing and a place where he could freely build an altar and give thanks to God.

I have drunk from the pure spring fed flowing waters of what I believe is the River Laman. In the smiting heat of 120 degrees Fahrenheit temperatures, I have walked into the cool confines of a great canyon that I believe is the Valley of Lemuel. I have sought the safe confines of the canyon after having the tents of my camp on the shore of the Gulf of Aqaba blown over by torrential winds that blow nightly. Here in this canyon is the handiwork of God. The imagery is truly profound, and reminds me of a passage from the Qur'an: "Withersoever ye turn, there is the presence of God, . . . all that is in the heavens and on earth; everything renders worship to Him." (Qur'an 2:115, 116)<sup>v</sup> Could this natural imagery have been a giant learning aid? Was this imagery symbolic of the Messiah?

Behold, a king shall reign in righteousness, and princes shall rule in judgment. And a man shall be as a hiding place from the wind, and the covert from the tempest; as a river of water in a dry place, as the shadow of a great rock in a weary land. (Isaiah 32:1-2)

[George Potter with Richard Wellington, Following the Words of Nephi: Part One: Discovering the Valley of Lemuel, Unpublished Manuscript, 1999, pp. 61-63, 80]

1 Nephi 16:8 **I, Nephi, had been blessed by the Lord exceedingly (Potter Theory) [Illustration not shown]:** A hiding place from the wind, and the covert from the tempest . . . a river of water in a dry place, as the shadow of a great rock in a weary land. (Isaiah 32:1-2). Photo by George Potter. [George Potter with Richard Wellington, Following the Words of Nephi: Part One: Discovering the Valley of Lemuel, Unpublished Manuscript, 1999, p. 64]



1 Nephi 16:8 **I, Nephi, had been blessed by the Lord exceedingly (Potter Theory) [Illustration]** The “River of Laman” winds its way through the “Valley of Lemuel.” George Potter and Richard Wellington, Lehi in the Wilderness, p. 10]

1 Nephi 16:9 **The Lord . . . Commanded [Lehi] That on the Morrow He Should Take His Journey into the Wilderness:**

According to Potter and Wellington, Lehi would have had some sense from Nephi's vision and from his own knowledge of the huge task which lay ahead in getting across the "many waters" to the promised land (1 Nephi 13:12). There were only a few places where ships large enough to even attempt to take them such a distance were built and sailed. Lehi and Nephi must have realized that the Lord was leading them toward the ports which sat at the end of the Frankincense trail.

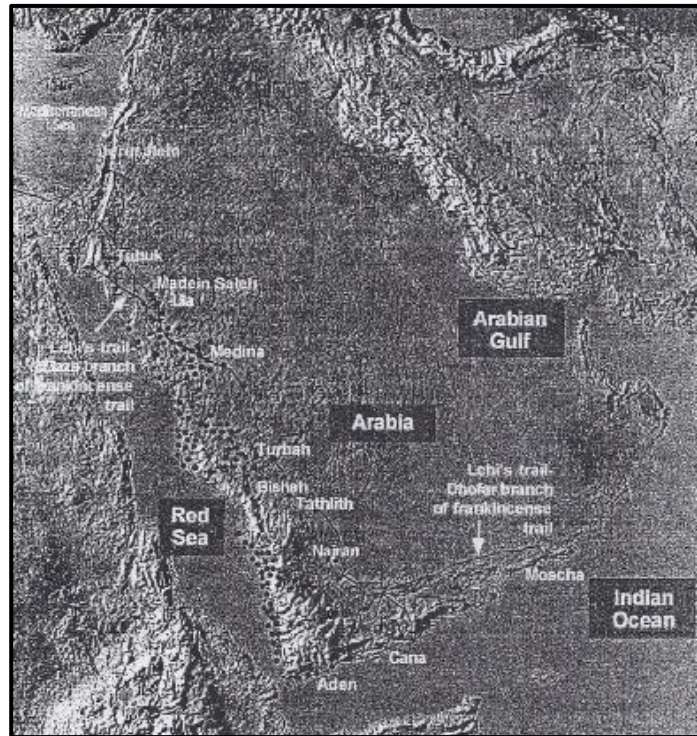
One might ask, how can anyone claim that Lehi really knew these ports existed? The valley of Lemuel in which Lehi camped was less than twenty miles from the Gaza branch of the Frankincense trail. The Frankincense trail got its name from the product which was primarily transported along it--frankincense, a sweet smelling gum, the sap of the Frankincense tree (*Boswellia sacra*). The Frankincense trees were native to southern Arabia, specifically the Dhofar region and the Hadramawt region. Thus the southern Arabians became wealthy on the sale of this aromatic, highly prized substance. Evidence suggests it was used in Egypt as early as 5,000 B.C., and eventually became an integral part of temple ceremonies in Egypt, Mesopotamia, Greece, Rome and Israel.

There were three main ports in southern Arabia: Aden, Cana and Moscha (see illustration). The merchant ships of these three ports virtually monopolized trade with India and the Far East until the first centuries B.C.-A.D.<sup>vi</sup> Aden (Eden) and Qana (Canneh) were known to the people of Palestine in Lehi's time (see Ezekiel 27:23). Moscha ("Mesha"--Genesis 10:30) was the major port in Dhofar. The Frankincense trail ended only when it reached one of these ports. Moscha was a place where ships and captains could be found that were capable of sailing in the open waters of the Indian Ocean.

Nephi's assignment was basically to build a ship and sail it across "many waters" to the promised land. In our times it might be somewhat comparable to the Lord asking you to go to the moon. Even if you had inspiration from the Lord you would probably want to visit a large aerospace manufacturer, find out where suppliers are located so you could acquire the necessary components, and finally consult with an experienced astronaut for lessons. Nephi had to acquire the knowledge and develop the skills necessary to make this ocean voyage, and he had limited time. What more could he seek than a place where he could draw on accumulated experience and tradition. That place existed at the end of the Frankincense trail.

But what evidence is there that Nephi and Lehi really knew such a place existed? Lehi was of the "free class" and a land owner (1 Nephi 4:33; 2:4). He was wealthy (1 Nephi 2:4), multi-lingual (1 Nephi 1:2), and therefore probably of the noble or merchant class. Most likely, Lehi had as good, if not better, knowledge of the overland and seafaring routes of his day than did his contemporary prophets. And if Ezekiel and Jeremiah<sup>vii</sup> (Jeremiah 10:9) knew about these large ocean-going ships of the Indian Ocean and the overland trail route leading to the Indian Ocean ports (Jeremiah 49:7-8), then certainly Lehi knew about them. Moreover, the brass plates told of these ships (see 2 Nephi 12:16). These plates mentioned Ophir (2 Nephi 24:12) which, according to the LDS Bible dictionary was "probably a port of southern Arabia." According to Oman historian S.B. Miles, Ophir appears to have been the port of Moscha (Mesha) in Dhofar (Sephar)<sup>viii</sup> (Genesis 10:29-30; 1 Nephi 5:11). The scriptures told of Solomon sending his navy to Ophir to acquire gold (1 Kings 9:28), a "great plenty of almug trees," and precious stones (1 Kings 10:11). "By the time of Job 22:24, Ophir had become a synonym for a gold producing land."<sup>ix</sup> Over hundreds, even thousands of years, gold and precious things had

come to that area through the sale of the precious Frankincense, native to only that area.  
[George Potter and Richard Wellington, Discovering The Lehi-Nephi Trail, Unpublished Manuscript, 2000, pp. 71-73]



1 Nephi 16:9 **The Lord . . . commanded [Lehi] that on the morrow he should take his journey into the wilderness (Illustration):**The Three Ancient Ports of Southern Arabia: Aden, Cana, and Moscha.  
[George Potter and Richard Wellington, Discovering The Lehi-Nephi Trail, Unpublished Manuscript, 2000, p. 88]





1 Nephi 16:9 **The Lord . . . commanded [Lehi] that on the morrow he should take his journey into the wilderness (Illustration):** “Main Trade Routes in Lehi’s Time,” George Potter and Richard Wellington, Lehi in the Wilderness, p. 57]

1 Nephi 16:10 **He [Lehi] Beheld upon the Ground a Round Ball of Curious Workmanship:**

An instrument called a "ball" or "director"<sup>x</sup> is first introduced into the Book of Mormon narrative just prior to Lehi's leaving the Valley of Lemuel (near the Gulf of Aqaba on the Red Sea)<sup>xi</sup> and setting off into the wilderness of Arabia towards a promised land. This promised land (the Americas) was seen by Nephi in vision while at the Valley of Lemuel (1 Ne 12-13). He saw that this New World was separated from the Old World by "many waters" (1 Ne 13:12). Hence a trip across a great sea or an ocean was inevitable. However Lehi and Nephi were apparently ignorant of many of the details related to how all this was going to take place. It is reasonable to assume that they entertained a myriad of questions as they enquired of the Lord regarding their future. One of these concerns apparently had to do with navigation, both across the desert and across the ocean, and was addressed by the Lord just prior to their leaving the Valley of Lemuel. Nephi records the

event as follows:

And it came to pass that as my father arose in the morning, and went forth to the tent door, to his great astonishment he beheld upon the ground a round ball of curious workmanship; and it was of fine brass. And within the ball were two spindles; and the one pointed the way whither we should go into the wilderness. (1 Ne 16:10)

Later in the text we find that this "ball" was specifically termed the "Liahona" (Alma 37:38).<sup>xii</sup> The major question I will address here is, "Can the Book of Mormon narrative and other scriptures support the idea that the Liahona contained a magnetic spindle?" I have approached the subject from different points of view to determine whether or not further research is justified.

**Note\*** For the facility of those readers who initially want to quickly scan my reasoning, I have *italicized* the main question that directed my research and I have underlined the words and thoughts that might reflect my summary answer. Where there are options I have numbered and italicized them.

***Point #1*** *What about those who say that I shouldn't speculate on the idea of a magnetic compass when the scriptures are silent on the matter?*

The text of 1 Nephi is silent on many matters. Lehi's group spent at least eight years in the wilderness (1 Nephi 17:4), yet from the time of the appearance of the Liahona in the narrative until the group reached Bountiful<sup>xiii</sup> there are only 34 verses to describe the experience. In his narrative, Nephi fails to mention other people outside his immediate family group when we know they must have had contact with any number of persons. No mention is made of any animals, yet camels were surely needed to transport tents and supplies (1 Nephi 2:4) and animals were surely needed in order to offer sacrifice and burnt offerings (1 Nephi 2:7,5:9). Even more telling are the lack of details regarding Nephi's boat. While Nephi tells us that the Lord showed him where to find ore in order to make some tools (1 Nephi 17:10) Nephi provides no details on the construction of the ship other than saying that they "worked the timbers" (1 Nephi 18:1) and that "I, Nephi, did go into the mount oft, and I did pray oft unto the Lord; wherefore the Lord showed unto me great things" (1 Nephi 18:3). And the record is completely silent regarding how Nephi as well as the others acquired the skills to sail the ship. Given such lack of cultural detail I have two choices: (1) I can say nothing more than is written in the text, or (2) I can attempt to try to understand the cultural and historical background in order to gain insight into what is written. John Sorenson notes:

It continues to strike me how incurious many of our people are, how they want to hear the same thing over and over again. Too much of our scripture "study" is like a bedtime story where, if we get one syllable wrong, the child says, "Oh, that's not the way it goes" . . . The first thing we need is an opening up of curiosity, a willingness to accept that it is okay to be curious,

it is okay to try to learn something new.<sup>xiv</sup>

In my scripture study, I prefer to think that if I don't ask any questions I can't expect to receive any answers, and if I don't actively seek for knowledge I shouldn't expect any constructive ideas to come into my mind. "Ask, and it shall be given you; seek, and ye shall find; knock, and it shall be opened unto you" (Matthew 7:7). On that assumption I will proceed.

*In review:*



*Can the Scriptures support a magnetic Liahona? I will attempt to briefly address what the Book of Mormon text specifically has to say about the Liahona as to the possibility that it was at least in part magnetic. I am fully aware that my assertions are impossible to prove, especially when compared to a "miraculous" Liahona that can be "miraculously" adapted to whatever the text says. Nevertheless, I believe some insights might be gained here by examining the issue from different scriptural perspectives.*

*Should I speculate about a magnetic Liahona when the scriptures seem silent in this regard?*





*According to 1st Nephi, Lehi's party spent 8 years in the wilderness. I love this picture of Lehi's family departing from Jerusalem, yet the artist has taken quite a few liberties that are not specified in the text. For example, in the text no camels are mentioned. Nor are sheep mentioned.*



*But how does one transport tents that weigh up to 500 lbs? And how does one offer sacrifices or sustain themselves without any sheep?*



*In the text, no people other than family members are mentioned, despite the fact that travel in the Arabian desert was governed by water, and all water sources were claimed by people. There was no chance of traveling the length of the Frankincense Trail without running into people.*

Text Lacking  
Valley of Lemuel to Bountiful  
34 Verses

*As with most history, it can be said that the historical text of the Book of Mormon is lacking in size. A number of the Nephite record keepers said as much. For example, for the trip from the Valley of Lemuel to Bountiful, in which Nephi was dependent upon the Liahona seemingly every day, the text consists of only 34 verses. And only 16 verses are later used to describe an ocean voyage that would have taken many months, if not years. In the rest of the Book of Mormon narrative, there are relatively few verses related to the Liahona.*

Matthew 7:7  
Ask -- it shall be given you  
Seek -- ye shall find  
Knock -- it shall be opened unto you

*So is there anything to gain by speculating about the Liahona? I think Matthew, Chapter 7, Verse 7 provides some guidance:*

*Ask and it shall be given you  
Seek and ye shall find  
Knock and it shall be opened unto you  
I consider these steps to be a continuing process, open-ended in time and truth.*

**Point #2:** *Why did Lehi need to receive the Liahona at the time that he did?*

I know to some Book of Mormon readers this might seem like a stupid question. Anybody who has read the Book of First Nephi or who has read most any LDS statement on the Liahona is fully instructed as to how, through "faith and diligence," the instrument helped Lehi and Nephi get through the desert wilderness to the land Bountiful where Nephi would construct a ship (1 Nephi 16:10-17:5; Alma 37:38-42). They would also have read how Nephi used the Liahona in this same manner to navigate that ship to the promised land. Yet while I readily acknowledge that "faith and diligence" were extremely important traits for Nephi to learn and acquire in his journey to the promised land, there might be more to the story than this.

Scholarly investigation over the last half century has revealed details of how Lehi and Nephi must have been following a caravan route called the Frankincense Trail,<sup>xv</sup> a route traveled by groups led by experienced caravaners who knew where they were going and took much less time than eight years to reach their destination. What then would have been the purpose in having Lehi travel separately, with only a Liahona for guidance? And how would this have any bearing on whether the Liahona was in part magnetic?

Scholarship has also revealed that for Lehi and Nephi, the only politically appropriate place where (1) key materials for constructing an ocean-going ship were available; where (2) the basic knowledge and skills of how to build such a ship had been perfected and passed down through generations; and where (3) master sailors experienced in navigating seafaring ships spent the winter months relating their trials at sea, was located on the other side (or southeastern shores) of the Arabian peninsula.<sup>xvi</sup> There in the land of Bountiful (proposed as being near the port of Khor Rori in the present-day country of Oman on the Dhofar coast of the Indian Ocean<sup>xvii</sup>) Nephi would be able to obtain the specialized hardwoods for the massive hull and masts, the large amounts of cloth for the many sets of sails, the thousands of feet of rope, etc. There Nephi would be able to acquire the skills and knowledge of his time so that in overseeing the building of his ship he would know what things to do "after the manner of men" (1 Nephi 18:2) There he also would consult with the Lord on how to construct the tools necessary to make changes such that he could remark: "Now I, Nephi, did not work the timbers after the manner which was learned by men, neither did I build the ship after the manner of men; but I did build it after the manner which the Lord had shown unto me; wherefore, it was not after the manner of men. (1 Nephi 18:2) And there Nephi would be able to sit at the feet of the master ship captains and learn to sail an ocean-going ship not just out of the harbor (a feat in itself) but across the vast Indian Ocean and beyond. Yet if all

this learning and preparation (which must have required "faith, heed and diligence") were to take place in Bountiful, what was it about the Liahona that required Nephi and Lehi to acquire it and learn to use it before they ever got to Bountiful?

I believe one answer to the above question lies in the art of navigation. Navigational training for ocean-going vessels has to do with learning various techniques for ascertaining directions and locations while at sea. The lessons of building a boat, and even sailing a boat, while significant, would not qualify one to navigate that ship on open seas. In Nephi's time navigational techniques involved measuring the position of the sun, the position of the stars, the directions and intensities of the storms, the flights of birds, etc. Suffice it to say, and contrary to what some might believe, these techniques worked quite well most of the time, but not always. There were times when conditions on the sea became sufficiently difficult as to negate the accuracy of every technique. At these perilous times perhaps the usefulness of the Liahona might have made it superior to all the other navigational arts. Local maritime training alone could not cover all difficult navigational situations. And long-term maritime training could not be accomplished by Nephi without significant risk of losing his special ship, his family, and the Liahona itself.<sup>xviii</sup> Yet by learning to use this "compass" or Liahona to guide his family across the desert under difficult conditions, Nephi would face some very similar navigational problems to those encountered while on the ocean, and furthermore he would be able to acquire this orienteering training without putting a "one-of-a-kind" ship in jeopardy. Now I know that the above navigational scenario can be seen from the perspective that God provided everything for Nephi, but it can also be seen in light of Nephi learning to navigate by means of a Liahona that was, in part, magnetic.

*In review:*

*Why did the Liahona appear at the time and place that it did?*



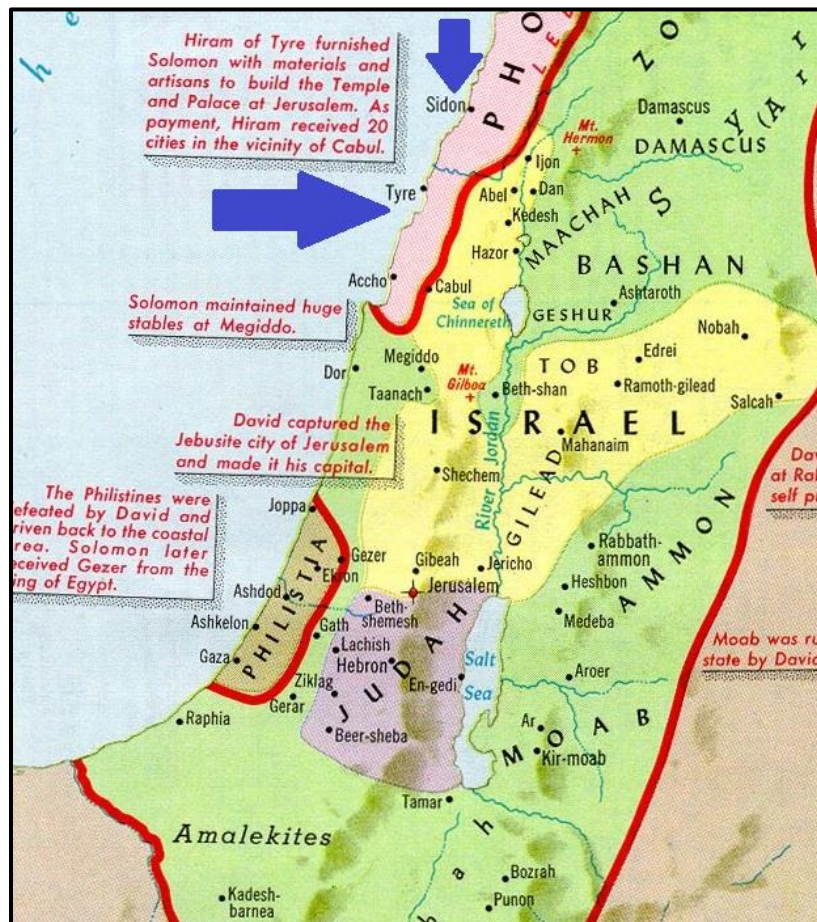
*We have previously discussed how Nephi was taken up onto an exceedingly high mountain where he received a vision of the future related to his calling. In that vision he learned that "Many waters" separated his Old World from the New World or Promised Land (1 Ne. 13:12)*



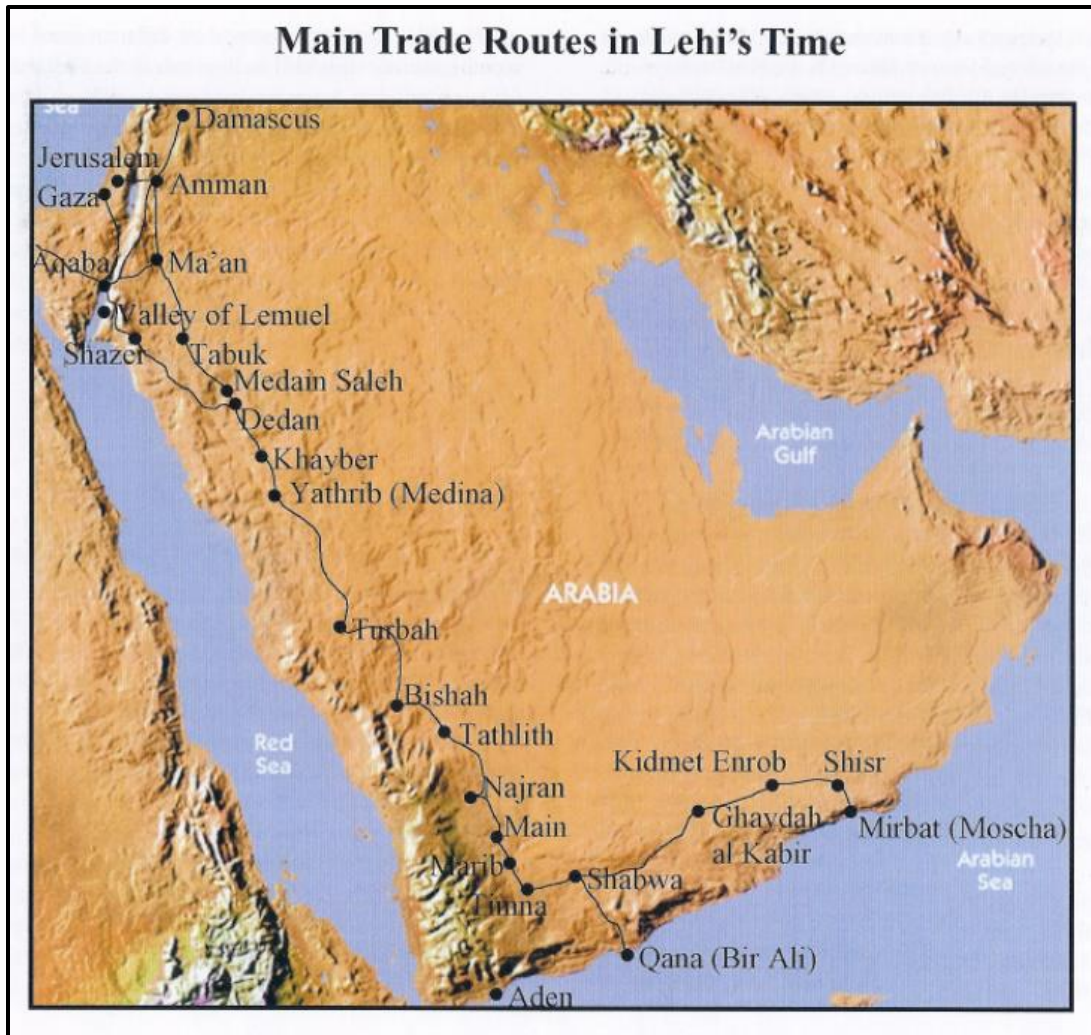
### Nephi Would Need an Ocean-going Ship

1. Construction Materials
2. Construction Expertise
3. Navigational Expertise
4. A Good Political climate
5. A Good Harbor

*In other words, Nephi would need an ocean-going ship. Thus Nephi would need to go where there were ship-construction materials, ship-building experts, ocean-going navigational experts, and where the political climate was right for attempting such a project.*



*To Nephi at this time there were seemingly only two locations with the capability to build an ocean-going ship. One of these was north with the Phoenicians at the port of Tyre or Sidon. But that would mean going back through Jerusalem and right through the Babylonian controlled countryside. So that option was not viable.*



[George Potter and Richard Wellington, *Lehi in the Wilderness*, p. 57 ]

*The other option was at the southern end of what is termed the Frankincense Trail, where ocean-going ships took on loads of incense.*





*George Potter and Richard Wellington have proposed the Book of Mormon site of Bountiful in the Old World to be the ancient port of Khor Rori in southeastern Arabia (Dhofar, Oman) for a number of reasons. This satellite view of Khor Rori illustrates the massive cliff outcroppings which shield the inlet from the monsoon storms, making it perfect for shipbuilding.*



*By joining a formal caravan, Lehi's family could have reached their destination in about 90 days. But Nephi knew that even if he was given a ship upon arrival at their destination, he wouldn't know how to navigate it or repair it, so Nephi chose to take much longer traveling through the desert. He records that he spent 8 years in the wilderness. This added time would give him the needed navigational training-- reading the sun, the moon, the stars, and, oh yes the Liahona--, without the need to risk a one-of-a-kind ship along with all of his family. He also needed that time to prepare everyone spiritually from the words written on the ball from time to time.*

**Point #3:** *Who made the 'ball' and how did it come to be placed by the tent door?*

The next thing I have probed here (and which is seldom discussed) is the question, "Who made the 'ball' and how did it come to be placed by the tent door" (1 Nephi 16:10)? I know this sounds like another stupid question; the text is clear that it was "prepared by the hand of the Lord," but some discussion might be insightful.

Unlike Joseph Smith's story about obtaining the plates and interpreters from the angel Moroni, Nephi's narrative record (the Small Plates) is almost void of details concerning the Liahona's origin. He says nothing about the instrument's origin in his retrospective telling of his desert travels (1 Ne. 16:10-30)<sup>xix</sup> or his travels at sea (1 Ne 18:12-22). And the only thing that Nephi does state in his last comment is that, "the ball, or compass . . . was prepared for my father by the hand of the Lord, according to that which is written" (2 Ne 5:12). Yet nothing is written about that preparation! One might suppose that there were details mentioned in the account on the Large Plates of Nephi (which account was translated by Joseph Smith but subsequently lost), however neither a subsequent author of those Large Plates (Alma) nor the abridger (Mormon) add any details. When given the chance, Mormon only notes that the Liahona "was prepared by the hand of the Lord" (Mosiah 1:16). And Alma writes only that "the Lord prepared it" (Alma 37:38). Thus my focus moves from the lack of details to the question, What does the phrase "prepared by the hand of the Lord" imply?

I realize that in helping mankind to move forward in the Lord's work, the Lord has infinite power. I also realize that the Lord usually directs men to help accomplish His work using their own resources and nature as much as they are able. I always refer to this relationship as the Law of Stewardship - that is, the Lord only does for man what man cannot do for himself.<sup>xx</sup> Nevertheless, in the scriptural record it seems that whatever might be the proportionate mixture of the Lord's help and man's effort, it is all acknowledged to be "by the hand of the Lord."

For example, Moroni acknowledges that his father Mormon "made this record" and Moroni also acknowledges that "great and marvelous is the destruction of my people, the Nephites." But Moroni then declares that "it is the hand of the Lord which hath done it." (Mormon 8:5-8) Moroni was fully aware that his father, Mormon, gathered ore to molten, and then fashioned the plates, after which he painstakingly inscribed the history of his people on them. Moroni was also aware that Mormon directed his people to prepare for battle against the Lamanites for years and then led his people into the final battles in which carnage the Nephite armies fought to the death against the victorious Lamanite armies. But instead of pointing to any military actions of the people on either side as the cause for the outcome, Moroni simply writes that, "it is the hand of the Lord which hath done it."

In the book of Omni, Amaleki records that the people of Zarahemla "journeyed in the



wilderness, and *were brought by the hand of the Lord* across the great waters, into the land where Mosiah discovered them . . ." (Omni 1:16). Yet I have never heard anyone interpret this passage to mean that the Lord miraculously transported the Mulekites across the ocean and made them suddenly appear one morning in the Americas without any effort on their part.<sup>xxi</sup>

In view of the above, the question I have is this: how do we interpret what Nephite record keepers had to say in regards to the Liahona? Alma not only noted that "the Lord prepared it," but added that "there cannot any man work after the manner of so curious a workmanship." (Alma 37:38) But did Alma mean by this phrase that no man had a hand whatsoever in the Liahona's "curious workmanship"? Perhaps not. In a similar situation Nephi writes that in building his ship, even his brothers were able to "work timbers of curious workmanship" (1 Nephi 18:1), so it is clear that "curious workmanship" can be worked by ordinary men. What is key to this process of creating "curious workmanship" however, as Nephi acknowledges, is that "the Lord did show [Nephi] from time to time after what manner [he] should work the timbers of the ship." Nephi writes:

And it came to pass that they [Nephi's brothers] did worship the Lord, and did go forth with me; and we did work timbers of curious workmanship. And the Lord did show me from time to time after what manner I should work the timbers of the ship.

Now I, Nephi, did not work the timbers after the manner which was learned by men, neither did I build the ship after the manner of men; but I did build it after the manner which the Lord had shown unto me; wherefore, it was not after the manner of men. (1 Nephi 18:1-2)

In other words, by following the directions and inspirations of the Lord, these men were able to achieve a result that was something more than if they had done it completely by their own knowledge and power. Although the timbers were physically shaped by men's hands, the result was "curious workmanship" suitable for the Lord's purposes because the Lord was giving inspiration and direction to Nephi. Nephi's statement that he "did not work the timbers after the manner which was learned by men" implies that Nephi had apparently expended the effort to acquire the knowledge of how to build a ship in the normal way "after the manner of men," because he knew the differences. These differences weren't so mysterious as to prevent Nephi's brethren from feeling competent enough to remark that the ship "was good, and that the workmanship thereof was exceedingly fine" (1 Nephi 18:4) especially in view of the fact that they were the ones that had supposedly built the ship and done the workmanship. Once again, while the hand of the Lord is over everything, his purposes are usually accomplished through at least some effort on the part of men. Nephi was required to fulfill his stewardship and do his part.

So with these perspectives in mind I will go back to the original major question in point #3 - Who made the ball? - and discuss some possible answers:

***(Option #1) The Lord personally made the "ball and delivered it Himself.***

As stated previously, anything is possible with the Lord in dealing with men on earth and the scriptural references certainly can imply such a scenario. Indeed, the Lord was said to have parted the Red Sea so that the children of Israel could cross on dry ground (Exodus 14:8-31), and the Lord was also said to have moved a mountain for the brother of Jared (Ether 12:30). But as I have shown above, the scriptures themselves might also give some subtle hints that men were required to do their part, however small it might seem. In the first instance, Moses was required to "lift thou up thy rod, and stretch out thine hand over the sea, and divide it" (Ex 14:16). In regards to the brother of Jared, Moroni notes that this man was required to "sa[y] unto the mountain Zerin, Remove-and it was removed. And if he had not had faith it would not have moved" (Ether 12:30).

I will now review another scriptural situation that might provide more insight---the account of the brother of Jared with the stones on mount Shelem.

In the book of Ether we find an account of a group of inhabitants of the promised land who originally came from the tower (of Babel) and who ultimately had been destroyed. They were led by Jared and his brother. In their migrations towards a promised land they were required to build barges and cross "many waters" before they finally came to "that great sea which divideth the lands" (Ether 2:13). They stayed there four years until one day "the Lord came again unto the brother of Jared, and stood in a cloud and talked with him." (Eth 2:14). The brother of Jared was commanded to build some barges in order to transport them across the great sea. After completing the construction of eight barges "after the manner which they [previously] had built, [and] according to the instructions of the Lord" (Ether 2:16), the brother of Jared found that there was a major problem in these vessels that were supposed to carry them across the waters to the Promised Land--"in them there is no light; whither shall we steer?" (Ether 2:19) Also when the vessels were sealed up tight they could not breathe. Upon communicating these problems to the Lord, the Lord is said to have given specific construction solutions for the breathing problem, but interestingly He asked the brother of Jared to come up with his own solution for the light. Here the brother of Jared acts in a peculiar manner. He does not ask the Lord to solve the problem completely for him, but comes up with his own plan (apparently with some logical merit, perhaps historical and/or scientific). He molten out of rock "sixteen small stones" that "were white and clear, even as transparent glass." (Ether 3:1) He carries these stones to the top of the mountain and pleads, "touch these stones O Lord with thy finger, and prepare them that they may shine forth in darkness . . . that we may have light while we shall cross the sea." The Lord then complies by touching the stones "one by one with his finger." (Ether 3:4-6) One can ponder here as to why the brother of Jared bothered to molten the stones at all? Why didn't he just pick up sixteen stones, or ask the Lord to provide him with the stones? The scriptures imply that the brother of Jared had a known objective in mind by the fact that he did molten ore to produce sixteen small stones that were white and clear. Some have speculated that the brother of Jared knew of stones with special luminescent qualities.<sup>xxiii</sup> Whatever the answer, all we know is that the brother of Jared felt obligated to do something on his part which required his utmost skill and knowledge, yet whose ultimate success depended on the power of "the finger of the Lord."

Returning now to the Liahona, we know that Nephi and Lehi were required to use "faith, diligence, and heed" in working the instrument *after* they received it. This might have been all the Lord required of them for their part--and yet I still wonder if Nephi was required to do anything in regards to how the instrument was made or how it got there in the first place.

Interestingly we find in Omni 1:16 that the People of Zarahemla (who we also refer to as the Mulekites) were "brought by the hand of the Lord across the great waters." almost the exact words used to describe the origin of the Liahona. So did the Lord literally pick the Mulekites up in his hand and transport them to the Americas? Did they magically appear one morning in the Americas just like some teach that the Liahona appeared magically one morning at Lehi's tent door? I haven't heard one person teach as much about the Mulekites.

*In review:*



*Option #1: The Liahona might have been totally prepared and delivered by the Lord himself. Indeed in three places Book of Mormon writers state that the Liahona QUOTE "had been prepared by the hand of the Lord" (1 Ne 18:12, 2 Ne 5:12 , Mos 1:16). Certainly the Lord can do anything, but is that phrase meant to be literal or symbolic?*



*The Lord didn't just give the brother of Jared the stones needed to give his barges light and the ability to steer. He was required to do something to the best of his ability. He molted out of rock "sixteen small stones" (Ether 3:1) and presented them to the Lord.*



*Interestingly we find in Omni 1:16 that the People of Zarahemla (who we also refer to as the Mulekites) were QUOTE "brought by the hand of the Lord across the great waters." almost the exact words used to describe the origin of the Liahona. So did the Lord literally pick the Mulekites up in his hand and transport them to the Americas? Did they magically appear one morning in the Americas just like some teach that the Liahona appeared magically one morning at Lehi's tent door? I haven't heard one person teach as much about the Mulekites.*

**(Option #2)** *The Lord (or an angel) brought the Liahona, which instrument had at an earlier*

*time been in the possession of an inspired man.*

An example of this perspective can be found in the Interpreters. At the end of a probationary period after the angel Moroni's initial appearance to Joseph Smith, Moroni eventually delivered unto Joseph the abridgment Plates, the Breastplate and the Interpreters (Urim & Thummim). The origin of the abridgment can be traced to Mormon and Moroni (Mormon 6:6; 8:1, 5; Moroni 1:1, 4) The Breastplate can be assumed to have originally belonged to either Mormon or Moroni. The Interpreters (Urim & Thummim) can be traced to the brother of Jared (Ether 3:21-28; Ether 4:4-5, D&C 17:1; see also D&C 10:1), although there might have been an earlier beginning (Mormon writes: "Now these things were prepared from the beginning, and were handed down from generation to generation, for the purpose of interpreting languages; And they have been kept and preserved by the hand of the Lord" Mosiah 28:14-15). There may even have been multiple interpreters (Urim & Thummim) in both the Old World and the New World. The Interpreters were somehow (perhaps by an angel-- Ether?) passed to the Nephite King Benjamin who passed them on to King Mosiah (Mosiah 8:13-18; Ether 4:1)<sup>xxiii</sup> before they received the record of Ether (24 gold plates). And in time the Interpreters came into the possession of Moroni himself (Ether 3:22-28; 4:1-5)

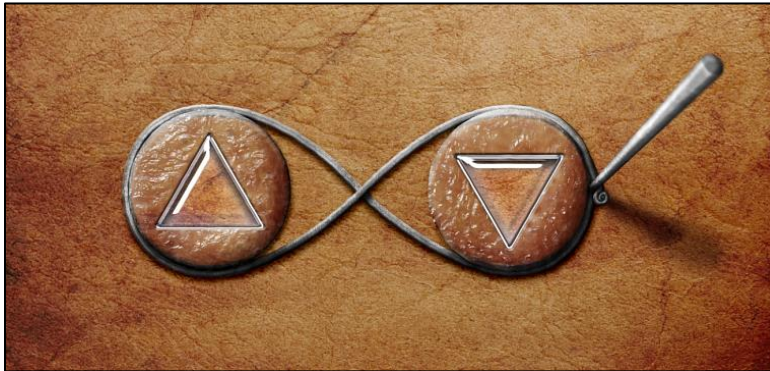
So if some inspired man (like the brother of Jared and eventually Ether) originally possessed the Interpreters, did some inspired man originally possess the Liahona? And did that inspired man (now an angel) bring the Liahona to Lehi? Mormon tells us that the Interpreters were "kept and preserved by the hand of the Lord" (Mosiah 28:14) yet they were "handed down from generation to generation" (Mosiah 28:15) Unfortunately, we do not have any previous scriptural account of any man possessing an instrument similar to the Liahona.<sup>xxiv</sup>

*In review:*



*Option #2: The Liahona could have been delivered by an angel, similar to Moroni delivering the plates and other sacred items to Joseph Smith. Along this same line of reasoning, and according to Mosiah chapter 28, although multiple Nephite record-*

keepers had preserved the plates and sacred items, passing them along to the next chosen person, these sacred things (which included the Liahona) were said to be QUOTE "kept and preserved by the hand of the Lord." Interestingly, among these sacred items were two stones, called Interpreters, that were said to have been QUOTE "prepared from the beginning," and "handed down from generation to generation" as a testament to the covenants associated with the Promised Land.



*In the Book of Mormon narrative, the Interpreters were first given to the Brother of Jared by the Lord, and are associated with the Jaredites, who possessed the Promised Land before the time of Nephi. The Interpreters are not mentioned in relation to the Nephites until the times of King Mosiah. Yet intriguingly, according to Mosiah chapter 8, King Mosiah possessed these stones apparently before the records of the destroyed Jaredite nation. That is, before the 24 plates of Ether were ever presented to him. Thus the question can be asked, How did King Mosiah get these stones? Did an angel deliver them to him? Perhaps this was the case with the Liahona also. Perhaps like the Interpreters, the Liahona was prepared from the beginning and passed from one official caretaker to another, even if it required an angel to do so.*

**(Option #3)** *The Lord inspired a man (perhaps Nephi) living at the time of Lehi to make or obtain the "ball" according to his given knowledge and abilities and had the man deliver it to Lehi's tent door.*

One possible source for the Liahona that might be considered here is Nephi himself.<sup>xxv</sup> Although it is hard to imagine such a scenario without any direct mention of it by Nephi himself, there are a number of scriptural verses and cultural clues relative to the text that might be interpreted in favor of such a scenario.

To be sure, Nephi seems to have had skill in working metals,<sup>xxvi</sup> and he was familiar with the two metals (brass [an alloy of copper] and iron, which would have been used in constructing a partly magnetic Liahona.<sup>xxvii</sup> Apparently Nephi's metallurgical knowledge and skills were sufficient to give Laman cause to presume that Nephi was using such skills to fashion the Liahona for his own



selfish purposes. When they were struggling with the direction that they should take in the desert wilderness, Laman complained to Lemuel and the sons of Ishmael, saying the following:

Now, he [Nephi] says

[#1] that the Lord has talked with him, and also

[#2] that angels have ministered unto him. But behold, we know that he lies unto us; and he tells us these things, and

[#3] he worketh many things by his cunning arts, that he may deceive our eyes, thinking, perhaps, that he may lead us away into some strange wilderness;

[#4] and after he has led us away, he has thought to make himself a king and a ruler over us, that he may do with us according to his will and pleasure. And after this manner did my brother Laman stir up their hearts to anger. (1 Nephi 16:38)

From the above scripture, I can make a case for Laman's complaint #1 and #2 happening during the time that Lehi's family resided at the Valley of Lemuel.<sup>xxviii</sup> That is, Nephi talked with the Lord and had angels minister to him while his family was there (1 Nephi 2:16; 3:28-29). If this list is chronological in nature, then a case also can be made for the idea that Laman's complaint #3 ("he worketh many things by his cunning arts") happened during the time in the Valley of Lemuel and before they departed into the wilderness. In other words, Nephi possibly made something "by his cunning arts" while at the Valley of Lemuel that seemed to give Nephi some degree of influence in leading his brethren "away into some strange wilderness."

Laman's final complaint (#4) is quite interesting in view of the time it was uttered. Laman claims that Nephi had "thought to make himself a king and a ruler over us." In fact, Nephi himself alluded to this idea at a point much earlier in the text (see 1Nephi:10:1)<sup>xxix</sup> In view of the fact that their numbers were apparently limited, what in the world would ever give Nephi the idea that he was a "king and a ruler"? The Book of Mormon tells us that Nephite kings had certain items as proof of kingship: the sword of Laban, the plates of Brass, and the Liahona. Historical sources tend to support such regalia as symbols of kingship.<sup>xxx</sup> Nephi obtained through his own efforts (supported by the Lord) the first two of these items while his family resided at the Valley of Lemuel. That leaves me to wonder whether Nephi also obtained the Liahona in a similar manner during this time at the Valley of Lemuel.

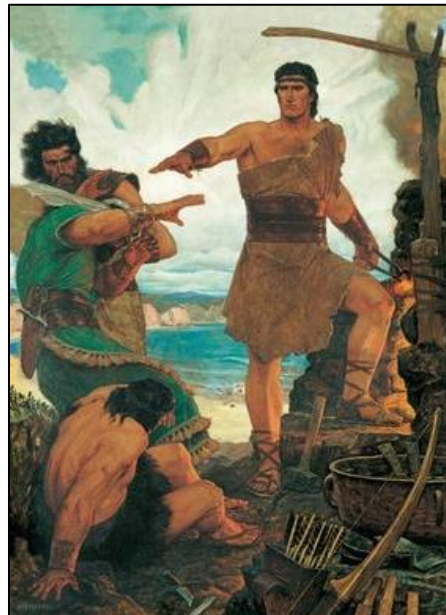
As mentioned above, Nephi would have had the materials ("brass" and iron) for constructing the Liahona (or "ball") at his disposal at this location.

Knowing that his skills were guided by the Lord, and knowing that a complete or total understanding of some of the principles involved (magnetism possibly being one) were beyond his comprehension, Nephi might have chosen to deflect attention from his own skills and efforts in his record by simply attributing the creation of the Liahona to "the hand of the Lord." (2 Nephi 5:12) In a similar manner, Nephi attributed the obtaining of the brass plates and the sword of Laban to the power of the Lord (compare 1 Nephi 3:1-9 with 1 Nephi 5:1-9), even though he knew that he had used his own skills and reasoning in the matter.

There also might be a parallel to the origin of the Liahona in what Nephi later records in chapters 17 and 18 of his narrative in the book of First Nephi. Upon arriving at Bountiful, it is Nephi (not Lehi) who receives directions from the Lord on how to build a boat (an instrument to get them across an ocean wilderness). In possibly the same pattern used in constructing the Liahona, the following is said about the ship: (1) Nephi goes to the Lord often in prayer for direction; (2) He asks the Lord for what he did not know (where to obtain ore).--Notice that he didn't also ask how to forge the metal or make the bellows; (3) He apparently was able to obtain the other materials needed for constructing the boat by his own means, but (4) He had to go to the Lord to know how to work the materials with "curious workmanship" in order to get the desired result. (5) At the sight of the finished product, his brethren were astonished that the workmanship was "exceedingly fine" even though they did the work; (6) Although the revelation for constructing the ship (the instrument necessary for getting them to the Promised Land) had come through Nephi (nothing is said of Lehi), the Lord eventually also spoke to Lehi telling him it was time to leave Bountiful and continue their journey to the Promised Land; and (7) "On the morrow" they began their trip.

Thus, in view of the pattern listed above regarding the building of Nephi's ship, which tends to correlate with the story of the Liahona, and in view of the complaints of Laman, Nephi might have been more deeply involved in the manufacture of the Liahona than has previously been proposed.

*In review:*



*Option #3: Nephi made and delivered the Liahona himself. Apparently, Nephi had metallurgical expertise, because later when the Lord commanded him to build a ship, he only asked where to find ore, NOT what to do with it. Interestingly, some time after*



leaving the Valley of Lemuel, Laman & Lemuel complained that Nephi was trying to become a ruler over them. According to First Nephi 16:38 they charged that QUOTE "He worketh many things by his cunning arts that he may deceive our eyes, thinking, perhaps, that he may lead us away into some strange wilderness; and after he has led us away, he has thought to make himself a king and a ruler over us, that he may do with us according to his will and pleasure." This begs the question, What had Nephi worked by his cunning arts to deceive their eyes? And how could Nephi claim to be a King with so few people in Lehi's party?



Historians note that through the ages there have been certain symbols of Kingship. #1: Records, which established one's claim as rightful heir. #2: A royal scepter or sword, which made one a defender of the people. #3: An orb which symbolized that one was ruler over the world, and #4: A crown, which symbolized the glory given one by God.

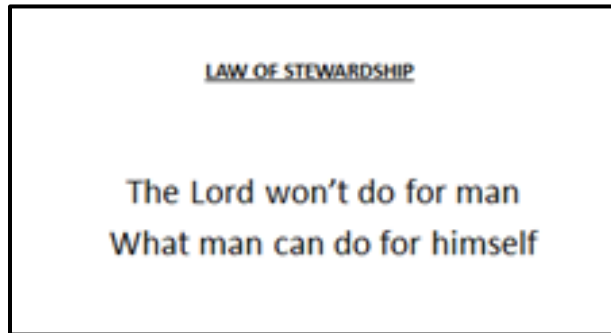


*Here is another representation of the Kingship regalia.*



*What would have represented Nephi's Regalia? #1: Nephi had the Brass Plates (or the records of the Tribe of Joseph). #2: He had the Sword of Laban. #3: He had the ball or Liahona. and #4: He had been crowned with Visions from the Lord. While three of these four items might seem remarkable, one might wonder what made the sword of Laban so special. Interestingly, according to Jewish tradition, Abraham is said to have inherited an antediluvian sword by which he QUOTE "conquered the kings." The sword was passed down to Isaac and Jacob (or Israel) by birthright, and then to Israel's son Joseph. Laban was the caretaker of the records of the Tribe of Joseph, so had he become the caretaker of the antediluvian sword? Perhaps there are clues in the narrative. Apparently Laban had broken his covenant promises as he lay symbolically*

*drunken and fallen on the ground, and he was to suffer the consequences. Significantly, and seemingly in accord with covenant ritual, Nephi slew Laban with Laban's own sword. Then Nephi symbolically put on Laban's robes. Nephi also took Laban's sword with him. He also spoke in the voice of Laban as he obtained the brass plates. Question: Did Nephi now have claim to the birthright of the tribe of Joseph? One can argue as much. And did Nephi have the right to Kingship over the House of Israel? At this point, all that was lacking of the Kingship regalia was the Liahona.*



*The Law of Stewardship says that the Lord won't do for man what man can do for himself. Nephi had personally retrieved the records and the sword of Laban, although with the inspiration of the Lord. Did Nephi also make the Liahona with inspiration from the Lord? Apparently Laman and Lemuel certainly thought that Nephi was capable of doing so as we have previously discussed.*



*One might keep in mind that it was Nephi who would later forge both the small plates and the large plates as well as the tools to construct the ship. Second Nephi chapter 5 tells us that Nephi taught his people to QUOTE "work in all manner of iron, and of copper, and of brass, and of steel, and of gold, and of silver, and of precious ores." It*

*seems that Nephi was certainly capable of making a brass ball.*



*Intriguingly, Nephi's Regalia was passed down from Nephi to his literal descendant Moroni. (M 1:5) Does this say anything about Moroni's birthright and authority? Eventually, Moroni, now in angelic form, would present these items to Joseph Smith. Does this say anything about Joseph's birthright and authority? Was Joseph Smith also a literal heir from the tribe of Joseph, just like Nephi?*

*In summary, the Liahona possibly represents just one of many "miracles" that came as a combination of the Lord's inspiration and Nephi's efforts that enabled him to become the worthy ruler over the tribe of Joseph. While there are those who hold that the phrase "prepared by the hand of the Lord" implies that the Liahona was exclusively made by God, the story of Nephi and the brass plates tells us otherwise. We will also have the example of Nephi's boat to show us that while the Lord can indeed work miracles, it usually involves not only the physical efforts of his prophets, but the subsequent efforts of other good men and women. It is all in how we perceive the process of the miracle.*

**Point #4:** *What amount of personal skill was necessary for Lehi or Nephi to determine directions using the Liahona? In other words, was every working part of the Liahona controlled by the Lord exclusively through spirituality?*

From the time the Book of Mormon was first published, it seems that anti-Mormon writers attempted to characterize the Liahona as a magnetic compass, and thus an anachronism. Confronted with those arguments, LDS authors naturally took the opposing view.<sup>xxxii</sup> Interestingly,

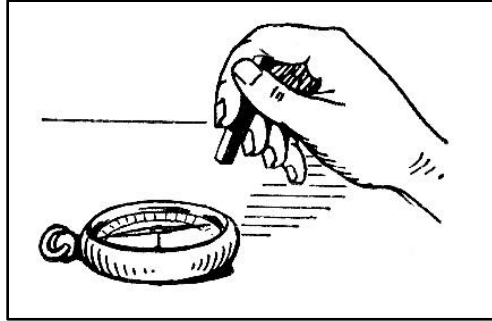
after the establishment of the FARMS organization in 1979, which tended to tie itself to the directionally altered Book of Mormon geography theory of John Sorenson, some writers (but not all) even began extending that opposition to LDS Book of Mormon geography theorists who dared broach the subject of true cardinal directions.<sup>xxxii</sup> Nevertheless, some early LDS writers still commented on the ancientness of knowledge regarding magnetism, and some FARMS writers, along with other LDS writers flirted with the idea of a magnetic Liahona.<sup>xxxiii</sup>

From the beginning, the LDS authors said that the Liahona functioned "*only* according to 'faith, diligence and heed,' " (1 Nephi 16:28; Alma 37:41) emphasizing *only* the spiritual requirements involved in this "miracle."<sup>xxxiv</sup> From that perspective the Lord not only caused the "spindle" to point in the direction that they should travel (1 Ne 16:10) but also wrote on the Liahona the appropriate complimentary spiritual message to go along with that direction (1 Nephi 16:29). Indeed, the words of Nephi seem to back this up. Nephi writes:

And it came to pass that I, Nephi, beheld the pointers which were in the ball, that they did work according to the faith and diligence and heed which we did give unto them. And there was also written upon them a new writing, which was plain to be read, which did give us understanding concerning the ways of the Lord; and it was written and changed from time to time, according to the faith and diligence which we gave unto it. And thus we see that by small means the Lord can bring about great things. (1 Nephi 16:28,29)

However taking another point of view, while all of this spirituality certainly played a significant part, the "all or nothing"---"either/or" argument of spiritual workings as emphasized by some<sup>xxxv</sup> does not necessarily have to be. The dependence on "faith, diligence and heed" does not negate the idea that a mixture of physical and mental efforts might have been required by Nephi or Lehi in order to obtain the desired answer with the Liahona, with or without magnetic spindles. Anciently, while a magnetic compass would have been nice to have on a voyage, most of the time it wasn't necessary to solve the basic questions of ancient navigation. As mentioned previously early mariners were accustomed to take many different signs (sun, moon, stars, waves, winds, birds, etc) into account before making a navigational correction. But sometimes those systems failed, and in such a stormy, life-threatening, truly electrically-charged scenario, all the members of Nephi's party would have been trusting their lives to Nephi's ability to correctly read a volatile (possibly magnetic) spindle.<sup>xxxvi</sup> Under such circumstances, Nephi would indeed have needed "faith, diligence and heed."

*In review:*



*The dependence on "faith, diligence and heed" does not negate the idea that a mixture of physical and mental efforts might have been required by Nephi or Lehi in order to obtain the desired answer with the Liahona, with or without magnetic spindles. Electromagnetic storms would distort the direction that the spindle pointed in the same manner as a magnet affects the reading.*

**Point #5:** *What about the things that were written on the ball? Doesn't the fact that Nephi relied on these words to help guide him separate the workings of the Liahona from a magnetic compass?*

In chapter 16 of 1 Nephi we find the following:

26. And it came to pass that the voice of the Lord said unto him [Lehi]: Look upon the ball, and behold the things which are written.

27. And it came to pass that when my father beheld the things which were written upon the ball, he did fear and tremble exceedingly . . .

28. And it came to pass that I, Nephi, beheld the pointers which were in the ball, that they did work according to the faith and diligence and heed which we did give unto them.

29. And there was also written upon **them** [just the pointers or both the pointers & the ball?] a new writing, which was plain to be read, which did give us understanding concerning the ways of the Lord; and it [the writing] was written and changed from time to time, according to the faith and diligence which we gave unto it. And thus we see that by small means the Lord can bring about great things" (1 Nephi 16:26-29)

In a 1994 FARMS article, Robert L. Bunker writes the following concerning the interpretation in brackets which appears in the verses above:

Antecedents of pronouns in the Book of Mormon are often ambiguous. Here "them" [verse 29] being plural is assumed to refer to the last plural descriptive noun--"pointers" [verse 28] . .

. xxxvii

But while Bunker focuses on the pointers, it becomes apparent that the antecedent of "them" in verse 29 could possibly refer to both the ball and the pointers. After all, how much writing could be written or changed on just the pointers?

In a series of articles, Hugh Nibley linked this writing on the pointers or spindles to the ancient art of belomancy in which, simply said, arrow shafts were labeled and depending on how they became arranged after being tossed, they were interpreted to mean basically either "yes" or "no."<sup>xxxviii</sup> After a lengthy discussion, Nibley concluded:

It would be an obtuse reader indeed who needed one to spell out for him the *resemblance* between ancient arrow-divination and the Liahona: two "spindles or pointers" bearing written instructions provide superhuman guidance for travelers in the desert. *What more could you want?*<sup>xxxix</sup>

Yet in response to Nibley's challenge, "What more could you want," I have to declare that my mind begs for more understanding.

In response to Nibley's linkage of the Liahona with the art of belomancy I would pose a few observations and questions of my own. First of all, while I can agree that this divination technique might offer insight into the Book of Mormon story of Lehi in the desert, I would correlate this technique more with Nephi and his brothers "casting lots" on their trip back to Jerusalem rather than with the Liahona. Indeed, I have viewed "casting lots" to be much like our modern practice of "pulling the short straw." In Nibley's article he includes the fact that "Meissner suggests that 'casting lots' in Babylonian (*salu sha puni*) refers to an original shaking or shooting of arrows." (p. 106) In this technique the arrows ultimately designated either for one to "go" or to "not go." But Nibley seems to stretch this "go" / "don't go" technique too far in order to equate this process with divining directions by a compass.

I might agree with this arrow-tossing divination method (to "go" or "not go") for some aspects of Lehi's trip through the desert because Lehi did have some reference points from time to time such as water wells, caravans, bedouins, tribal sheiks, Frankincense trail halts, mountains, etc. by which to orient himself, and the sun and stars would have usually been visible.<sup>xl</sup> The same reasoning becomes somewhat foggy, however, in the midst of an endless ocean on all sides, with stormy overcast skies, and with waves tossing the ship to and fro. For in this watery world, reference points might be absent for long periods of time and the orientation of the boat could be constantly changing.

Furthermore as the Book of Mormon narrative implies, Nephi and his brethren were already familiar with the system of "casting lots" (mentioned in conjunction with their trip back to Jerusalem), so why would they need a special instrument to do the same thing? On the other hand, the translation by Joseph Smith of the word Liahona--"being interpreted, a compass"--might indeed imply that the Liahona was at least in part just that, a magnetic compass, with directional words or markings written on the ball and spindles.

But some might counter, "What about the words of the Lord written on the ball that made Lehi 'fear and tremble exceedingly' (1 Nephi 16:27)?" Without negating the direct power of the Lord to miraculously perform this task, I will suggest that Lehi and Nephi had a whole volume of

the Lord's words in the form of the brass plates (1 Ne. 5:10-22). Indeed Nephi wrote:

21. And we had obtained the records which the Lord had commanded us, and searched them and found that they were desirable; yea, even of great worth unto us, insomuch that we could preserve the commandments of the Lord unto our children.

In a similar fashion to Nephi's having the words of the Lord written on the brass plates, we in this day and age also have whole volumes of the Lord's words collected in what we term the Standard Works, and quite often when those scriptures are read to us they specifically reflect on our situation in life and cause us to "fear and tremble exceedingly." Again, without trying to treat lightly the words in the Book of Mormon, I would ask, could the changing of the words on the ball and on the spindles have been accomplished by Nephi with words from the scriptures written on the brass plates? From time-to-time as Nephi read the brass plates, he could have inscribed certain important verses on animal skin or metal and attached these words to the ball. Loosely speaking, these words or verses of scripture could then be referred to as words of the Lord written on the ball.

In regards to this process of words being written on the ball, I would like to interject some more thoughts here by Robert Bunker on the passages containing antecedents which were previously quoted. Bunker writes on the antecedent of the phrase, "and there was also written upon **them**" in verse 29:

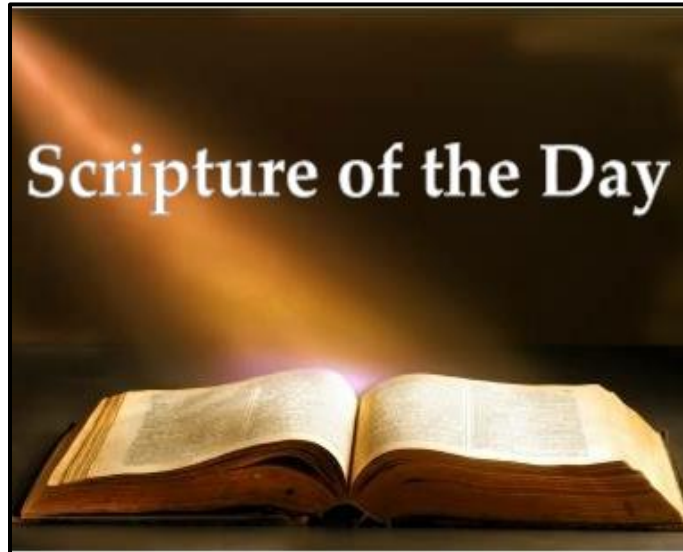
The only other plural [other than "pointers"] in the set of verses quoted is "things which are written" [v. 26] but here too one would find it difficult to say "And there was also written upon them (meaning the 'things which are written') a new writing." People don't tend to write "a new writing" "upon things which are written."

I would like to propose an alternative to Bunker's interpretation. I would suggest that another way of interpreting these verses of scripture previously quoted can be derived from the idea that the Lord teaches us in ways such that our understanding of scripture can be added upon (or 'written upon') --"line upon line, precept upon precept" (2 Ne. 28:30, Isa. 28:10, D&C 98:12). New scriptural verses from the brass plates could have been inscribed on (or attached to) the outside surface of the "ball," perhaps in the same manner as the names of teams and players are added to a metal sports trophy. These new verses would have enlarged the meaning of the previous verses -- in essence they would have been "written [or added] upon them." Some who prefer the miraculous might reply, "How narrow minded and small to think that way." But does not Nephi himself say that the changing of the words on the Liahona was a "small means" to bring about greater things (1 Nephi 16:29)?

*In review:*



*While it has been taught that the words of the Lord miraculously appeared on the ball, the scriptures only state that the words were written and changed from time to time. But by whom? Nephi had at his disposal the brass plates. Yet these plates were written in Egyptian characters, and only Lehi and Nephi seemed to be able to read them (1 Ne 1:2, Mos 1:4) Lehi and Nephi would then have sought opportunity to teach what they learned to the rest of the family.*



*Is it too much of a stretch to imagine Nephi placing a "scripture of the day" on the Liahona for the benefit of everyone who gave heed to the message? Are there not scriptural passages that have caused us to fear and tremble, just as the words on the ball did so to members of Lehi's group, according to the text?*

**Point #6:** *Is it significant that in describing their travels through the Arabian desert wilderness, Nephi only refers to the Liahona as a "ball" of "fine brass"?*

An article by John Tvedtnes was published in the online *Meridian Magazine* entitled, "Misunderstanding the Book of Mormon"<sup>xii</sup> in which he begins, "Misconceptions about concerning the text of the Book of Mormon, among both Latter-day Saints and others. . . ." He then addresses a number of these "misunderstandings", among which appear the comments below on the Liahona:

One of the well-crafted objects mentioned in the Book of Mormon is the "round ball of curious workmanship" that guided Lehi's party during their travels (1 Nephi 16:10). In Alma 37:38, it is called "a ball, or director . . . Liahona, which is, being interpreted, a compass." Some critics have objected that the "compass" possessed by Lehi's party is an impossibility, since the magnetic compass did not exist until long after that time.

The word "compass" appears many times in the King James version (KJV) of the Bible. The

verbal form means "go around"<sup>xlii</sup> or "surround,"<sup>xliii</sup> while the noun form means "round" in shape (1 Kings 7:35; 2 Chronicles 4:2)<sup>xliv</sup>, which fits the term "ball" by which the Nephites called it. Our magnetic compass takes its name from the fact that it describes the round horizon and the 360 degrees it comprises.

In similar fashion, the compass used to draw circles by draftsmen and carpenters (cfr. Isaiah 44:13)<sup>xlv</sup> is tied to the same principle. So when Nephi calls the Liahona a "compass" (1 Nephi 18:12, 21; 2 Nephi 5:11), he seems to be referring to its round shape, not magnetic qualities.

It is interesting to note here that while writers have continually debated the meaning of the word "compass" as found in the Book of Mormon, they have found little reason to accept or reject the word "Liahona" as part of Nephi's world. That might be because the etymology of the word "Liahona" could not be traced with any surety. However in 1959 some tablets were discovered in a tiny village called Ras Shamra in Syria (anciently northern Canaan). These tablets were written in a language that scholars have termed Ugaritic. And after compiling and defining a list of all the words in that ancient language (related to Old Hebrew), these scholars found a new word in the Ugaritic tongue--*liahona*, which they interpreted to mean "round."<sup>xlvi</sup> So finally, there is evidence sufficient to at least make the case that both the word "Liahona" and the word "compass" are historically adequate for Nephi's narrative and Mormon's (or Alma's) references to that instrument.

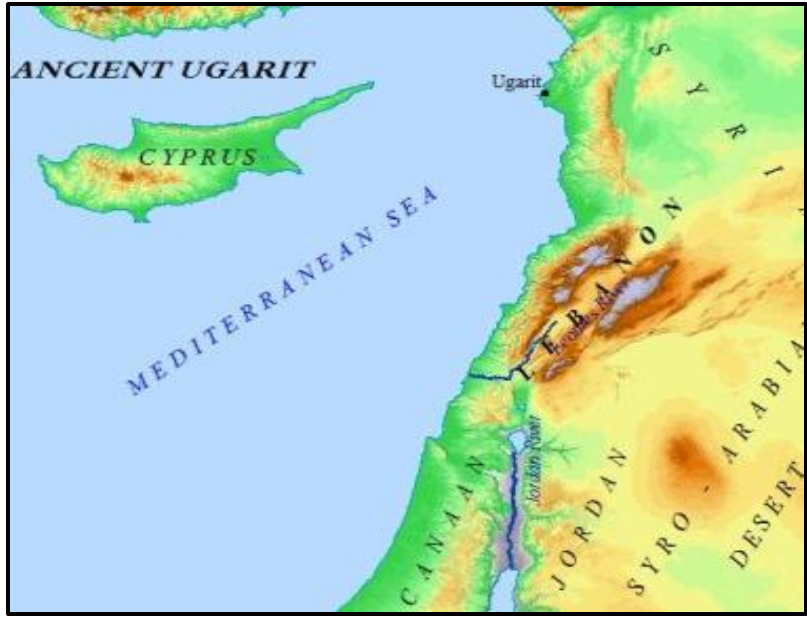
Thus some might take the above information as proof that the Liahona was a "round" "ball" (meaning also "compass") and that it did not have any connection to magnetic navigation. Yet from my research on ancient navigation I have found that this proof might not be as absolute as one might assume. To begin with there is a chance that the Ugaritic term "liahona" might possibly be connected to maritime navigation. Historically the northern Canaanite land that produced the Ugaritic language was the land of the Phoenicians, who as we will describe in Chapters 4, 5 & 6 were associated with Israel. These Phoenicians were not only sailors and shipbuilders who acquired the skills to traverse the Mediterranean Sea to its westward boundaries and beyond, and had the skills to circumnavigate the continent of Africa, but they had joined forces with the men of King Solomon almost 350 years previous to Nephi's time to build ships on the Red Sea and make 3-year voyages to the legendary land of Ophir. The Phoenicians might have assimilated the Ugaritic term "Liahona" into their own navigational vocabulary as a name for a "round" instrument that helped them navigate. If the Israelites became acquainted with Phoenician maritime skills, then Nephi was possibly using a known Phoenician term for a navigational instrument, "Liahona," to describe a somewhat similar "ball" or "director" that Nephi himself used in navigating their own journey.

While the above might be speculation, there is a more pertinent point in relation to the term "compass" as it appears in the Book of Mormon text that I would like to address. If Joseph Smith translated the Book of Mormon in his own language, then the question may be asked, how could the term "ball" be sufficient by itself to totally define the Liahona when that instrument was also referred to as a "director" (Mos. 1:16; Alma 37:38, 45) and had been used to direct the course of

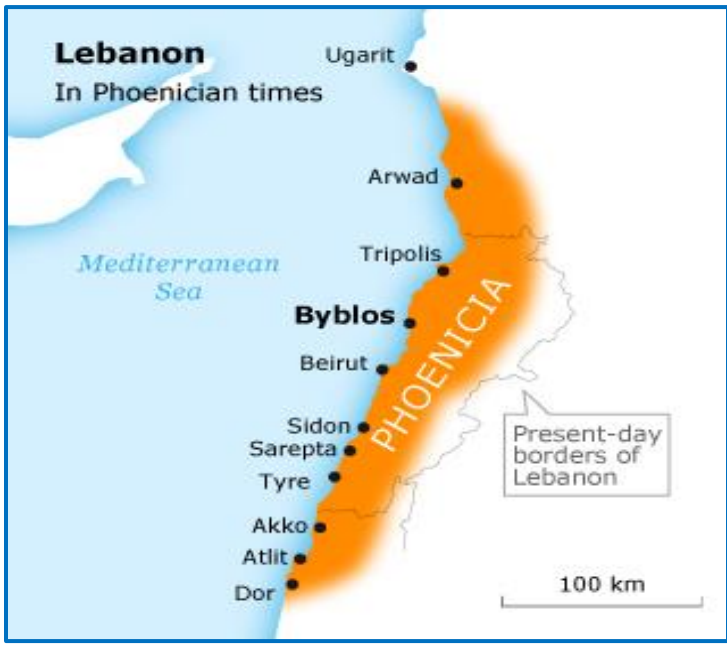
Lehi's travels across the wilderness and the ocean? As John Tvedtnes himself pointed out, the words "director" and "compass" seem to be equated in Alma 37:38. According to his own logic the term "compass" was derived from the circular 360<sup>0</sup> horizon. But as can easily be seen, a "ball" (360<sup>0</sup>) by itself is somewhat useless as a "director" (or for direction-finding) without spindles to point out which degree of direction one should go towards. The term "director" would lend credence to the idea that the term "compass" implied more than just a ball (360<sup>0</sup>), it implied spindles which pointed to specific points on that circular scale. Indeed, Alma declared to his son that, "our fathers called it Liahona, which is, being interpreted, a compass" (Alma 37:38). Thus the concept of a magnetic spindle remains a viable concept. One other pertinent point that needs to be answered here is that Nephi states in 1 Ne 16:16 that this "ball" that Lehi found at his tent door "was of *fine brass*." There is no mention of any iron. While this phrase might give support to the opinion that magnetism was not part of the "ball," it does not negate the idea that at least one of the ball's internal parts (a spindle) might have been made of a metal (iron) other than brass. In this respect, in 1 Ne 16:10 we find that *within the ball were two spindles; and the one pointed the way whither we should go into the wilderness.* (1 Ne 16:10). If the outside "ball" was made of brass so that one had to lift the top hemisphere or otherwise peer inside to see the spindles, then the spindles might have been considered apart from the outside sphere. Thus while the outside "ball" might have been made entirely of "fine brass," perhaps one of the spindles "within" the ball was made of magnetized iron or steel,<sup>xlvii</sup> working at least in part on the principle of magnetism. In fact "brass," being non-magnetic and noncorrosive, would have made an excellent casing for a magnetic pointer.<sup>xlviii</sup>

*In review:*

*Why was the Liahona initially referred to as a "ball" of "brass" instead of a "compass"?*



The word "compass" is found in the Bible. One of the meanings is an object that is circular in nature. So the term "ball" technically qualifies as a "compass" although not everything circular is a ball. Interestingly, a few years ago the word "Liahona" was found in an ancient Ugaritic text in which it meant "round." The Ugarit culture (note the city Ugarit identified with a dot ) flourished on the Mediterranean coast of what is now Syria about 1400 B.C. So we seem to have some linguistic support here for the Liahona being referred to as a ball. But the Liahona was also referred to as a "director" with spindles that pointed the direction to go. This implies more than a ball.



Interestingly, Ugarit was conquered by the Phoenicians, who ruled the Mediterranean seas and beyond for over a millennium. Did the Phoenicians adopt the word "Liahona"

*from the people of Ugarit? And did the Phoenicians happen to use a brass ball with magnetized spindles to help them navigate the seas as no others for over 1000 years? One might keep in mind the fact that the Phoenicians were famous for their bronze (and Phoenician bronze might possibly be the "brass" referred to in the Book of Mormon). And the Liahona was made of brass. And brass or bronze is a perfect non-magnetic and non-corrosive metal for housing a magnetic compass.*

**Point #7:** *Why did the Liahona need two spindles to function?*

According to Nephi 16:10, the ball (or Liahona) "was of fine brass. And within the ball were two spindles; and the one pointed the way whither we should go into the wilderness." Strangely the reader is not given the reason at this point for the other spindle. Yet in Alma 37:40 we find "that God could cause that those spindles should point the way they should go." So apparently both spindles were involved in ascertaining what direction they should go in. But again, why the need for two spindles?

*(Option #1): One spindle pointed miraculously to the direction they should go, and one spindle miraculously had written directions on it.*

For those LDS apologists that completely focus on the miraculous nature of the Liahona, both spindles worked on "faith" and according to Alma 37:40 "therefore they had this miracle." From this absolute miraculous perspective, no other explanation need be sought. Indeed, 1 Ne 16:28 states that Nephi "beheld *the pointers* which were in the ball, that they did work according to the faith and diligence and heed which we did give unto them." John Tvedtnes comments below on the Liahona:

. . . when Nephi calls the Liahona a "compass" (1 Nephi 18:12, 21; 2 Nephi 5:11), he seems to be referring to its round shape, not magnetic qualities. Neither of the two "spindles" or "pointers" inside the ball pointed north; one pointed the way the group should travel, while the other displayed written directions from the Lord; both worked according to the group's faith (1 Nephi 16:10, 26-30; Alma 37:38-44).<sup>xlix</sup>

*(Option #2): One pointer was magnetic, pointing north, and one pointer was adjusted accordingly to point to the intended direction.*

In a 1984 FARMS *Update*, Robert F. Smith writes:

While the Book of Mormon does not tell us whether the Liahona functioned partly on geomagnetic principles, Nephi did say that it contained two spindles, one of which functioned as a directional pointer, and that the body was made of "fine brass" (1 Nephi 16:10, 28). Brass

is an excellent noncorroding and nonmagnetic case for a compass. Those who are familiar with modern compasses might naturally ask whether the Liahona worked on a similar principle, with a magnetic function for one spindle, and a possible azimuth setting [the angle created by plotting from due "north" the point on the eastward horizon where a planet or star arises] for the other.<sup>1</sup>

Thus, one spindle could have been magnetic (pointing north) and by some means the other could have been used, manipulated or interpreted to point the way they should go---both "spindles" being necessary to "point the way they should go." Garth Norman has commented: "My surveyors compass has two pointers, one magnetic, and the other adjustable to the direction I want to walk cross country with a magnetic fix. . . . the Liahona could have functioned in this same way."<sup>ii</sup>

When Joseph Smith translated the Book of Mormon plates, he was translating from the reformed Egyptian. The fact of the matter is that nobody knows exactly how and why Joseph chose the English words he did in translating that language. Did those words (like "compass") incorporate Joseph's understanding at the time of the English vocabulary? Perhaps. The 1828 Webster's dictionary gives one definition of the word "compass" to mean: "An instrument for directing or ascertaining the course of ships at sea . . ." This 1828 dictionary also notes that the word "compass" can be defined as: "An instrument used in surveying land, constructed in the main like the mariners compass; but with this difference, that the [one] needle is not fitted into the card, moving with it, but plays alone . . . This instrument is used in surveying land, and in directing travelers in a desert or forest, miners, &c."<sup>iii</sup>

*Option #3: There was only one spindle that pointed. It rotated on the other spindle.*

Perhaps the fact that "spindles" (plural) are mentioned here has made the interpretation of the working mechanism of the Liahona over-simplified. Let me explain. Some might wonder just what the word "spindle" implies. According to the *Webster's Dictionary*, a spindle is defined as "any rod, pin, or shaft that revolves or serves as an axis for a revolving part."<sup>iiii</sup> Thus a spindle might be used to refer to two different working parts, one that revolves and one that serves as an axis. If such was the case, Nephi's description first of "spindles" and then of "the one spindle" might actually refer to the same mechanism; that is, one spindle served as an axis for the second spindle which revolved around it according to the magnetic alignment. However, before we jump to any conclusions, we need to consider another verse. In 1 Ne 16:28, Nephi writes that he "beheld *the pointers* which were in the ball, that they did work according to the faith and diligence and heed which we did give unto them. (1 Ne 16:28) While this might be interpreted nicely by some to mean two or more pointers, it also might describe one magnetic needle which has "pointers" on both ends. The writing on the pointers could have been nothing more than a "N" (north) on one point and a "S" (south) on the opposing point so that they could be distinguished from one another and the user would not be confused into a situation where they were orienting



themselves from the south magnetic pointer when they assumed they were orienting themselves from the north magnetic pointer. Intriguingly, while the Western world has always focused on the northern tip of the compass needle to guide us, the Chinese were directed by the southern tip of the needle. Thus, whether it be the word "spindles" or "pointers" in the text, one might still maintain a view that allows for a magnetic needle.

*(Option #4): One spindle pointed the direction to travel. The other spindle was a "confirmatory" spindle to either point in the same direction or in an opposite direction (non-confirmatory).*

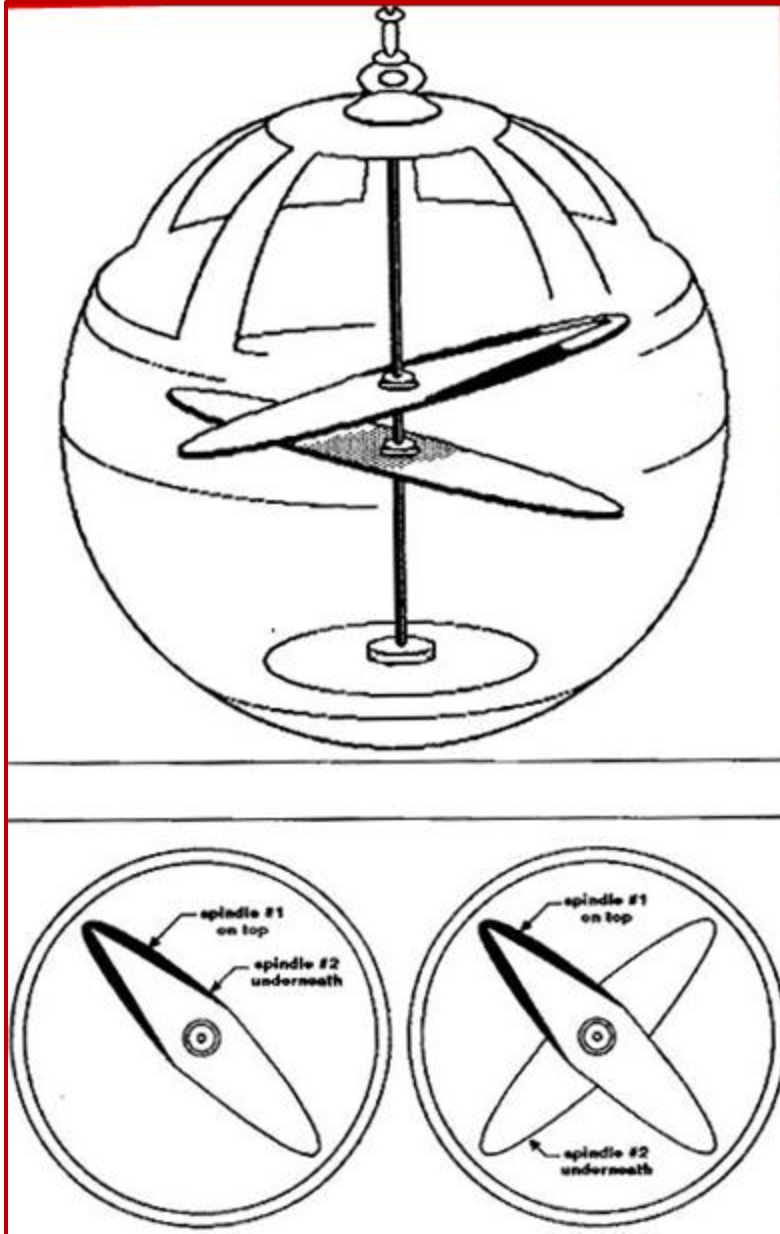
One other variation has been proposed, which applies either to a faith-based interpretation or a magnetic interpretation. In this perspective, BOTH needles worked in the same manner. The second spindle worked as a confirmation of the first. According to Robert L. Bunker<sup>iv</sup> :

This is how it would have worked: if an observer viewed the pointers and saw only a single pointer . . . then they were both aligned in the same direction, one on top of another, and the director was providing correct information. Lehi's party could then follow the indicated direction with confidence that it was the Lord's instruction. If, on the other hand, the two pointers were cross-ways to each other--forming an "x" . . . then the device was not functioning, and the pointing information was not reliable. . . . While this may seem a trivial solution, it nevertheless employs a basic fundamental principle of engineering called "voting of redundant strings," first developed about fifty years ago to make the digital computers of that era more reliable.<sup>iv</sup>

While this option might work wonderfully for digital computers, or for some imaginary outside force that attracts the needles, it creates problems for magnetic needles because they would tend to interfere with one another. In other words, great care would have to be taken so that the magnetic activity of the one needle did not influence the magnetic activity of the other (like poles repel and opposite poles attract).

*In review:*

*The scriptures state that "within the ball were two spindles and the one pointed the way whither we should go into the wilderness." So again why two spindles? There have been a number of theories put forth.*



*This is an illustration of an idea proposed in 1994 by Robert Bunker that one spindle miraculously pointed the direction to go, and a second spindle miraculously confirmed that direction ( or did not confirm it)*

*John Tvedtnes has proposed another idea that 1 spindle miraculously pointed the direction to go, and 1 spindle had writing on it.*

*Another option, according to dictionary definitions of a spindle, is that 1 spindle miraculously pointed the way to go while rotating on another spindle that served as an axis.*



*Now while these previous three options have their merit, isn't it also plausible to say that the Liahona functioned like the one described by Robert Smith? That is, it was similar to the surveyor's compass where upon adjusting a magnetic spindle to register "North," another "spindle" is set to point in a designated direction or to a fixed directional reference point (or in essence was set to point the way whither they should go into the wilderness)?*

**Point #8:** *Is it significant that almost immediately after receiving the "ball" from the Lord, Nephi uses a 16-point compass term, "south-southeast," (1 Nephi 16:13) to designate direction?*

In my view, whether the term "south-southeast" came from the mind of Joseph Smith in translating or whether it came from Nephi himself, it is significant because it represents a division of direction into sixteen parts. Perhaps this one-time mention of "south-southeast" might not be considered significant by some, yet when Nephi proceeds to talk about their travels he continually refers back to this specific directional term ("south-southeast"):

And it came to pass that we traveled *for the space of four days*, nearly a south-southeast direction . . . (1 Ne. 16:13)

And we did go forth again in the wilderness, following *the same direction* . . . And it came to pass that we did travel *for the space of many days* (1 Ne. 16:14-15)

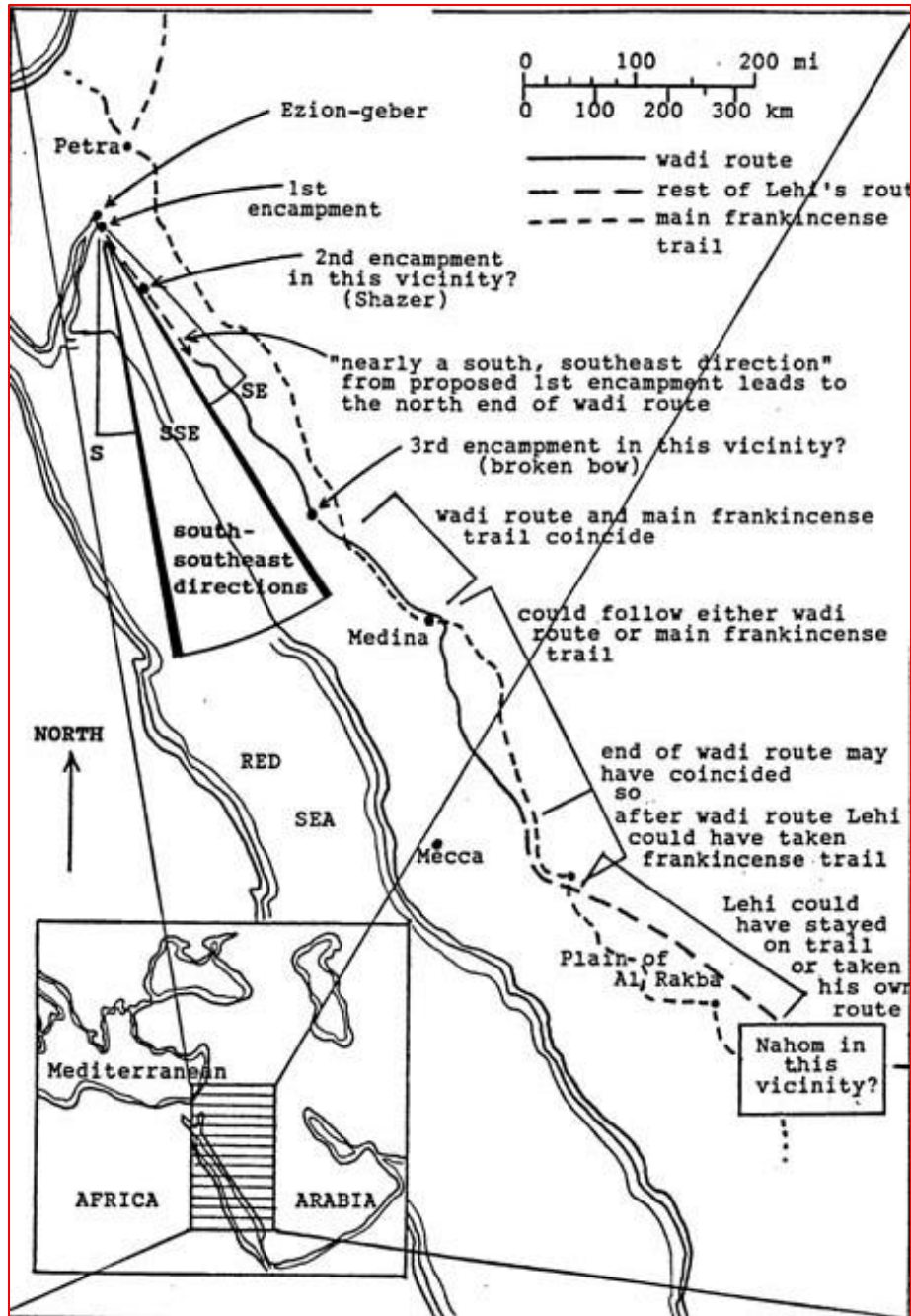
And it came to pass that we did again take our journey, traveling *nearly the same course* as in the beginning; and after we had traveled *for the space of many days* . . . (1 Ne. 16:33).

To me this conveys the meaning that *day-after-day*, in completely different geographical surroundings, with deep wadis meandering wherever the terrain dictated, in different times of the day, in possibly different weather conditions, Lehi and Nephi oriented themselves to a very specific *direction* ("south-southeast") -- a direction that is found *written* on modern-day compasses (as well as compasses of the past), -- a direction to which an orienting needle might be fixed to point the way relative to another magnetic needle continually pointing north.<sup>lv</sup> If the workings of the Liahona were completely miraculous, would Nephi have even cared to repeatedly

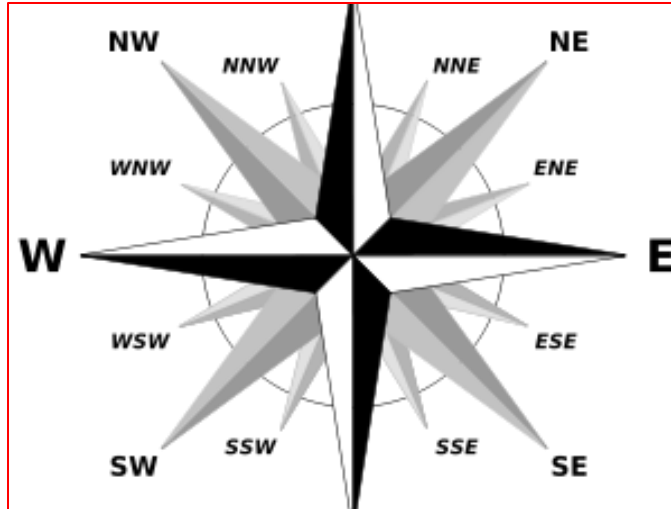
note such a specific direction as "south-southeast"? And if the aim of Lehi's party was to just follow the direction where the Lord caused the spindle to point, why would there be any need for Nephi to record and repeatedly refer to such a specific direction as "south-southeast"? Wouldn't it have been more practical under such a situation for Nephi to refer to any direction as either "northward," or "southward," or "eastward," or "westward"? There would be no reason to get any more specific. Despite a spindle miraculously pointing the way to go, Nephi would also have needed to rely on the sun, or the stars, or something else to orient himself as to the directions of north, south, east or west. It seems to me that without any magnetic spindle pointing north as a reference, and without an adjustable 360° set of markings for directions--directions which were also divided into sixteen divisions--it would be very difficult for any person traveling through the desert to claim that they were traveling in a south-southeast direction.

*In review:*

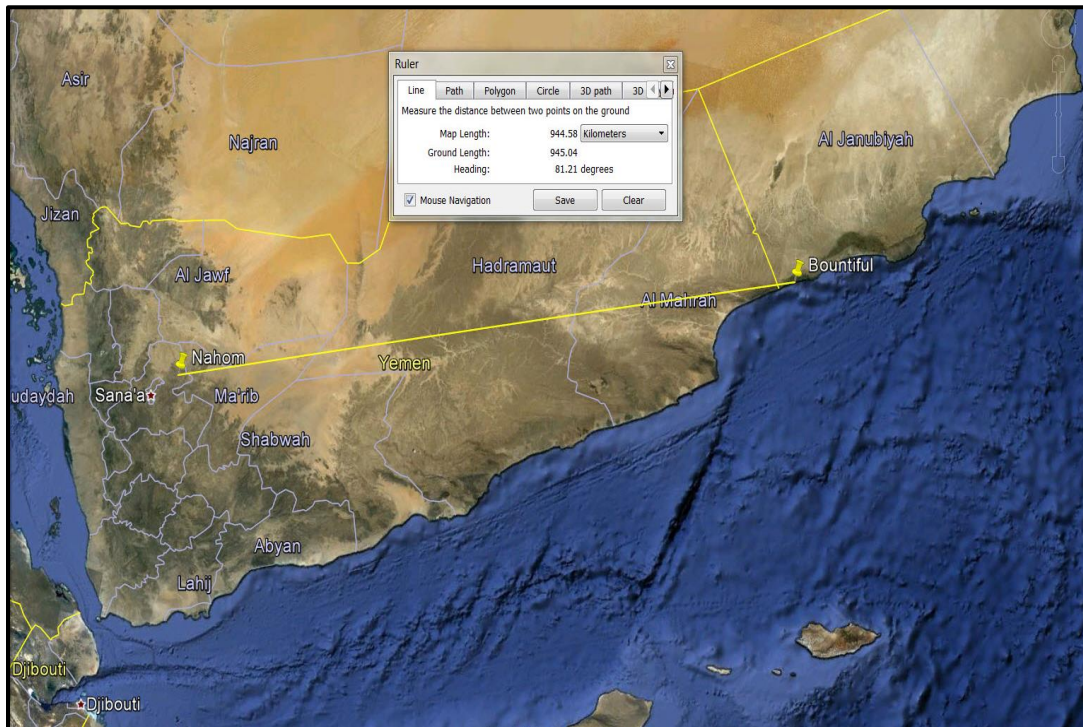
*Why would Nephi need to record a 16-point directional term "south-southeast" if the Liahona was miraculous? Wouldn't he just say they followed the way the needle pointed, or that they traveled generally eastward or westward or southward, or northward?*



Yet isn't it coincidental that immediately after Lehi received the "ball" or "compass," Nephi records that they traveled nearly a QUOTE "south-southeast" direction? This statement specifically represents a 16-point direction and possibly infers 32 points of direction.

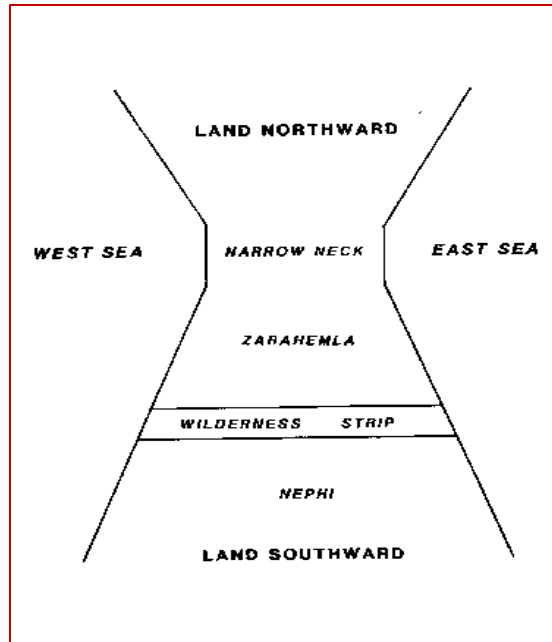


*Such a 16-point directional term gives support for a magnetic Liahona with a windrose.*



*Interestingly, in some later verses that follow after the 16-point term "south-southeast," Nephi uses the term "eastward" to describe their journey from Nahom to Bountiful. How can this be explained in the context of a magnetic compass? One explanation might be that while the lengthy trip from Nahom to Bountiful could have been directionally varied, it is covered in only 5 verses. Another explanation is that according to Potter and Wellington and others, Nephi's party really did travel nearly magnetically eastward to get to from Nahom to Bountiful.*





*As for the geography of the Book of Mormon lands in America, there are only references to 4-part directions such as a land northward and a land southward, or a sea east and a sea west. One might wonder why directional terms weren't more specific, unless the reference structure for directions had changed.*

**Point #9:** *What about when Nephi would later consult the Liahona in order to know exactly where to find game for food; doesn't this imply a function of the Liahona completely different from that of a magnetic compass?*

If this is what the scripture really says, then I probably would agree, but let's review the situation. In 1 Nephi 16:30 we read: "And it came to pass that I, Nephi, did go forth up into the top of the mountain, according to the directions which were given upon the ball." In regards to this verse, the first thing that I must determine is how directions were given on the ball. According to my view it was the spindles that determined direction of travel and the writing on the ball that more or less reminded one of the spiritual requirements necessary in order to be successful. But a much larger question is whether or not the Liahona specifically pointed to where game was. I don't think it specifically had to do so. I think there is room for a partially magnetic Liahona functioning as part of an overall orienteering process. Let me explain.

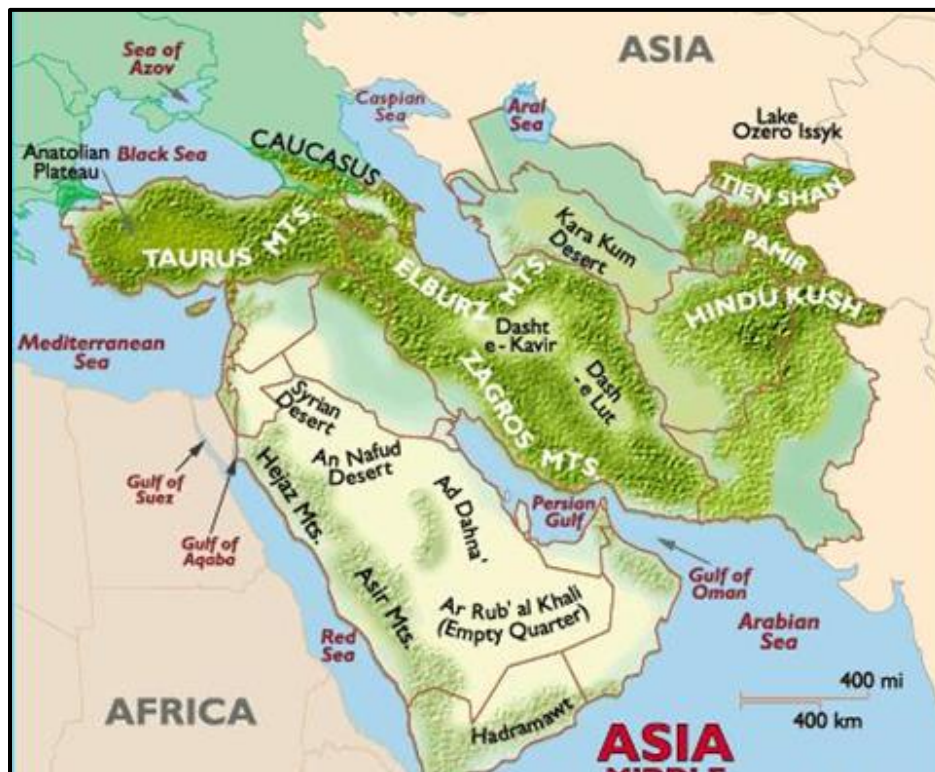
From Nephi's vantage point as he traveled southward on the Frankincense Trail, he probably viewed the mountains on his right (to the west) rising high in the distance many miles away, and he knew that if he traveled there he could probably get game. But as I see it, it wasn't the "getting game" that was the whole problem. It might have been just as difficult or more for Nephi to find his way back to where Lehi had camped. A magnetic compass would allow Nephi to chart a course

toward the mountains that could be retraced on the return trip. Although while on top of the mountain Nephi could view everything below in a panoramic perspective, he still had to descend through tortuous paths. In such a descent one can very easily get disoriented and end up coming down the wrong ravine. Through the use of a magnetic compass Nephi would not only have been able to plot his course back to camp from the top of the mountain, but at various locations in his descent.

To me the words "I, Nephi, did go forth up into the top of the mountain" implies a significant travel distance and an extended hike upward.<sup>lvii</sup> The words "according to the directions which were given upon the ball" might imply that he carried the Liahona with him. The fact that Nephi "did slay wild beasts" (plural) implies hiking and searching over much terrain to begin with, not to mention how much distance Nephi would have had to travel AFTER hitting his target in order to find the animal. The word "beast" implies a larger mammal and thus a possibility of a lengthier distance that this animal might travel after suffering the initial arrow penetration and before collapsing and dying. Additionally, for Nephi to focus on finding a wounded animal might have taken him further away from the memory of the trail he had taken to reach wherever he was at, and thus added to the need for the Liahona's directional system (a part of which could have been magnetic) in order to guide him back to camp.

*In review:*

*Could a magnetic Liahona point out where to get game?*



*Nephi writes that after breaking his bow and suffering from hunger, he built a new bow and went up into the tops of the mountains after game, according to the directions on the Liahona (1 Ne 16:30). While a miraculous Liahona might be able to point out where game was located, what about a magnetic Liahona? Perhaps that is not what the verses are saying here. From where Nephi was located on the Frankincense Trail, it is about 65 miles west to the Asir mountains that parallel the Red Sea as shown.*



*These mountains rise from 6,000 to 11,000 feet. Is it plausible that Nephi knew that game was in the top of the mountains, but that the purpose of the directions on the Liahona was to get Nephi safely back to camp after getting game and going through countless winding wadis and high mountain ravines?*

**Point #10:** *Why did the "compass" stop working later on the ocean voyage when Nephi was tied up?*

While on the sea journey to the promised land, Nephi reproved his brethren and the sons of Ishmael and their wives for being "lifted up unto exceeding rudeness" insomuch that "they did forget by what power they had been brought thither" (1 Nephi 18:9-10). They became angry with Nephi and bound him with cords (1 Nephi 18:10-12). Nephi then writes:

12. And it came to pass that after they had bound me insomuch that I could not move, the compass, which had been prepared of the Lord, did cease to work.
13. Wherefore, they knew not whither they should steer the ship, insomuch that there arose a great storm, yea, a great and terrible tempest, and we were driven back upon the waters for the space of three days; and they began to be frightened exceedingly lest they should be drowned in the sea . . .
20. And there was nothing save it were the power of God, which threatened them with destruction, could soften their hearts; wherefore, when they saw that they were about to be swallowed up in the depths of the sea they repented of the thing which they had done,

insomuch that they loosed me.

21. And it came to pass after they had loosed me, behold, I took the compass, and it did work whither I desired it. And it came to pass that I prayed unto the Lord; and after I had prayed the winds did cease, and the storm did cease, and there was a great calm.

22. And it came to pass that I, Nephi, did guide the ship, that we sailed again towards the promised land. (1 Nephi 18:12-22)

The fact that the Liahona stopped working when Nephi was tied up certainly could be connected to a loss of spirituality as the text implies. But it also might imply that Laman and Lemuel had overestimated their own skill in discerning directional orientation (possibly including the use of the Liahona) and that they had underestimated Nephi's navigational skills directing the crew and using the Liahona to keep them away from a storm. In other words, under ideal weather conditions and with Laman and Lemuel and the rest of the crew working day and night doing their shipboard duties, it might have seemed to them that one could always rely on the sun or the stars to navigate, and the use of the Liahona seemed incidental. The scriptural story implies that Laman and Lemuel and the crew had become so overconfident that they had neglected their shipboard responsibilities. 1 Nephi 18:9 states that "after we had been driven forth before the wind for the space of many days, behold, my brethren and the sons of Ishmael and also their wives began to make themselves merry, insomuch that they began to dance, and to sing, and to speak with much rudeness, yea, even that they did forget by what power [i.e. organized and directed effort] they had been brought thither; yea, they were lifted up unto exceeding rudeness." This implies to me that when Nephi saw that their duties were not being strictly executed and commanded them to do their duties, they swore at him and told him that they would do what they pleased when they pleased. Yet Nephi knew he could not keep the boat out of range of the storms or properly prepared for the storms without constant attention to the ship. Perhaps good weather and a wide-open ocean seemed to deceive Laman and Lemuel into thinking they didn't need Nephi's help or the Liahona's help in order to steer a navigable course. But Nephi knew different. He writes, "I, Nephi, began to fear exceedingly lest the Lord should be angry with us, and smite us because of our iniquity, that we should be swallowed up in the depths of the sea; wherefore, I, Nephi, began to speak to them with much soberness; but behold they were angry with me, saying: We will not that our younger brother shall be a ruler over us" (1 Nephi 18:10). Laman and Lemuel very soon would have found out that steering the ship in the Indian Ocean was not as simple as they thought, as the following statement on ancient navigation in the Indian Ocean illustrates:

From an Arab perspective there are three basic monsoon winds. First of all, from April to June, the Kaws wind blows southwest. Later the Dammani SW monsoon blows from August to the middle of October. At this time, the monsoon changes direction, and the Azyab monsoon blows in a NE direction. Ships leaving the Red Sea would start out the middle of October, so that they could catch the Ayab monsoon across the Indian Ocean, directly to the Malabar coast, reaching Kulam Mali during December. If they were moving on to China they would have to wait for the cyclones of the Azyab to die down in the Bay of Bengal before journeying on in January, crossing from Mulam Mali round the south of India to Kalah Bar in

the Malay Peninsula. . . . you will notice that the south-west monsoon strikes earlier further south, and lasts longer. As it moves northwards its duration shortens. Hence the Malabar coast of India is a dangerous place to be as early as May and remains so through September.<sup>lviii</sup>

So perhaps Laman & Lemuel didn't know how to navigate sufficiently well so as to keep the ship away from danger as much as possible; thus (or "insomuch that"), "there arose a great storm" (v. 13). When this stormy weather came up and the stars disappeared, the waves and winds swirled, and the spindles became erratic due to the tossing and turning of the ship and the electrically charged atmosphere, Laman and Lemuel knew they were in trouble. Upon being loosed, Nephi's navigational training (both physical and spiritual) might have allowed him to make use of an erratic but still "workable" (v. 21) magnetic Liahona among other navigational helps in order to exit this stormy situation.

*In review:*

*Would a magnetic "compass" stop working when Nephi became bound?*



*Nephi writes later in the text that the Liahona stopped working at sea when Nephi's brothers bound him (1 Ne 18:10-12) Certainly a miraculous compass based on faith could have stopped working in such a situation. But perhaps the scenario was a bit more complex. Is it not plausible to believe that a magnetic Liahona could have become wildly*

*erratic in such an electromagnetic storm, and become almost impossible for Laman & Lemuel to read? And could the effects of such a storm have been brought on and almost have cost them their lives because they had been QUOTE "making themselves merry," and not paying attention to the their ship-board duties to sail in the right direction, to see that they had the proper sails rigged up, and to secure the cargo?*

**Point #11:** Why is the term "compass" only used by Nephi in relation to ocean navigation?

Interestingly, while crossing the Arabian desert Nephi only referred to the Liahona as a "ball." It is not until they set forth on the ocean that Nephi refers to the instrument as a "compass" (1 Ne 18:12). And it is many centuries later that Alma tells us that the real name of this instrument was "Liahona," and that the word "Liahona" is, "being interpreted, a compass." (Alma 37:38)

In the ocean voyage Nephi refers to troubles with Laman & Lemuel in which the "compass" stopped working. He writes:

12. And it came to pass that after they had bound me insomuch that I could not move, the compass, which had been prepared of the Lord, did cease to work.
13. Wherefore, they knew not whither they should steer the ship, insomuch that there arose a great storm, yea, a great and terrible storm, yea, a great and terrible tempest, and we were driven back upon the waters for the space of three days; and they began to be frightened exceedingly lest they should be drowned in the sea; nevertheless they did not loose me.
14. And on the fourth day, which we had been driven back, the tempest began to be exceedingly sore.
15. And it came to pass that we were about to be swallowed up in the depths of the sea. And after we had been driven back upon the waters for the space of four days . . . (1 Nephi 18:12-15)

In reporting the effects of the storm at sea when the compass stopped working (but was later restored), Nephi mentions that they were "driven back upon the waters" (1 Ne 18:13,14,15). I asked myself, "Just how did he ascertain this knowledge?" One interpretation of this phrase might simply mean that their forward progress had been halted. But how did they determine this? Another interpretation might be as simple as saying that Nephi sensed the storm coming from the direction which they were sailing towards and thus deduced that the winds drove them "back." However, a storm can come from many directions, and in the midst of a storm the waves and winds can swirl. The words of Nephi that they were driven "back" might also imply a knowledge of longitude (east-west position) as well as (or in addition to) latitude (north-south position). While latitude can be measured with a simple instrument while viewing Polaris (the North Star),<sup>lix</sup> longitude requires much more sophistication, especially in the middle or after a great storm in



which stars are not visible and after which the position of the ship might have been severely altered (thus confusing the calculations of distance from any reference point). This knowledge of position in the aftermath of a storm was not able to be calculated by one single method. It would have required reference points, navigational charts, and directional readings (of which a magnetic "compass" might play an essential part).

On the other hand, traveling in the desert was somewhat different. For the most part, while traveling through the desert Nephi and Lehi were generally on the Frankincense trail. This most probably diminished the need for the "compass" function of the Liahona as there were other reference points. Perhaps during those desert times there was more of a need for "faith and diligence" to actually go forward in the direction the spindle pointed, especially when what lay before them seemed forbidding. Thus the need for spiritual direction as reflected by the words of the Lord written on the "ball" would have been more important for their ultimate success.

*In review:*

*Why is the term "compass" only used by Nephi in relation to ocean navigation?*



*Perhaps because during the eight years in the desert wilderness, the Liahona would have been seen more day-to-day as an instructional instrument where the words of the Lord were written on the ball and changed.*

**Point #12:** *If the Liahona was completely dependent on spirituality, or "faith, diligence and heed," why did it apparently stop working or come into disuse shortly after the Nephite arrival in the promised land?*

After arriving in the promised land, although Nephi took the Liahona with him when he departed from the land of first inheritance to go to the land of Nephi, he does not mention its use in guiding him through the wilderness to the land of Nephi (2 Ne 5:12). Nor does Amaleki specifically mention its use in describing the later Nephite migration from the land of Nephi to the land of Zarahemla (Omni 1:12-14), only that they were led "by preachings and prophesyings." This

makes me ask, if they were led by such spiritual manifestations, why did these not include the Liahona? Later on when Alma speaks of the function of the Liahona, he not only speaks of it in the past tense, he apparently fails to bring up any specific use of it beyond the travels of Lehi. (Alma 37:38-44) Once again I ask myself, why would it not be of use to them in their travels if it was exclusively a spiritual instrument? Had their spiritual abilities diminished?

One partial explanation of the situation might be found in the fact that the Lord saw no need for any continuing use for the Liahona. If such was the case and if Alma specifically tells the readers that, "there cannot any man work after the manner of so curious a workmanship," (meaning that the Lord had not given any man since Nephi an understanding of how to interpret the Liahona), then no matter what the natural mechanisms involved, the Liahona would not "work."

On the other hand, while it might be a matter of conjecture, Alma's statement many hundred years after the Lord had first given the Liahona to Lehi that "there cannot any man work after the manner of so curious a workmanship" might also be interpreted to mean that the art of constructing a magnetic compass had been lost. The destructive effects of time and moisture on iron spindles in the Liahona could have complicated matters.<sup>lx</sup>

From still another perspective, if "curious workmanship" included the magnetic power to move the spindle, and if no man at that time could give an adequate scientific reason for that magnetic power (much in the same way that the power of electricity or lightning could not be scientifically explained in early times), then the magnetic power would have been attributed to God, and thus the statement, "there cannot any man work after the manner of so curious a workmanship."

**Point #13:** *What about the use of the term "Liahona" or "compass" as a temporal metaphor?*

Many centuries after its actual use, Alma tells us that the real name of this instrument was "Liahona," and that the word "Liahona" is, "being interpreted, a compass" (Alma 37:38).<sup>lxi</sup> Alma then refers to the "Liahona" or "compass" in a metaphorical way. Alma writes:

43. And now, my son, I would that ye should understand that these things are not without a shadow; for as our fathers were slothful to give heed to this compass (*now these things were temporal*) they did not prosper; even so it is with things which are spiritual.
44. For behold, it is as easy to give heed to the work of Christ, which will point to you a straight course to eternal bliss, as it was for our fathers to give heed to this compass, which would point unto them a straight course to the promised land.
45. And now I say, is there not a type in this thing? For just as surely as this director did bring our fathers, by following its course, to the promised land, shall the words of Christ, if we follow their course, carry us beyond this vale of sorrow into a far better land of promise. (Alma 37:43-45)

Here a "temporal" Liahona or "compass" is contrasted with "things spiritual." If by the word "temporal" we are to understand a worldly or earthly mechanism as contrasted to "things which

are spiritual" meaning heavenly or eternal in nature, then we might glean some insights. In other words, by following the directions of a "temporal" instrument which functioned, in part, according to the "temporal" principle of magnetism (even though that principle was not fully understood), Nephi was guided to a hoped-for destination (the Americas--a land of promise) without getting lost or dying. In the same manner, by following "spiritual" things or by giving "heed to the work of Christ," even though these principles might not be fully understood, one can be guided to "a far better land of promise" in heaven. This line of metaphorical thinking seems to fit the word "compass" used here for the Liahona. The word "compass" seems to imply the means of heavenly direction (pointers & words) through a life-cycle (circle) played out on an earthly globe (ball). This seems to illustrate that the original meaning of the word "compass" is not so simple, even though others have stressed the idea that the word "compass" only refers to something round.<sup>lxii</sup> If a metaphor is only a representation of something that is, or actually was, and if this "compass" functioned according to a magical worldly phenomenon (magnetism), then, paraphrasing the words of Hugh Nibley,<sup>lxiii</sup> magic [or the physical movement of a magnetic spindle] becomes religion [or becomes attributed to the spiritual things of God] when the [magnetic] power by which things [or spindles] operate [within the Liahona] is transferred from the things themselves to God. That is, if you can trust God to help you benefit from physical earthly "temporal" phenomena that you might not fully understand, you should also trust God to help you benefit from spiritual laws that you might not fully understand. Both require "faith, diligence and heed."

#### Conclusions about the Liahona relative to the scriptures:

In concluding this point-by-point interrogation on the working principles of the Liahona, I believe that I have established that the scriptures do not totally negate the idea that the Liahona may have been, at least in part, magnetic. I will also note, however, that in my research of LDS writings on the subject of the Liahona, I have found that the idea of the Liahona having a magnetic spindle has been largely (although not completely) dismissed or ignored.<sup>lxiv</sup>

Now why does this matter?

At least to me it matters because I feel that being open to additional perspectives on the Liahona leads to additional perspectives on the Book of Mormon in general. Let me explain.

While perusing a small anti-Mormon book printed in 1832, I came across a passage in which the author sarcastically wrote, "The mariners compass was only known in Europe about 300 years ago; but Nephi knew all about . . . the compass 2400 years ago,"<sup>lxv</sup> meaning that the mention of a "compass" by Nephi was an anachronism, and thus the Book of Mormon was false.

To be sure, the anti-Mormon author misstates the usually accepted time of advent for the magnetic mariners compass in Europe by a few hundred years, but that is not critical to his claim. The grand assumption that he does make, however, is that the

Liahona worked on the principle of magnetism. For it is with this assessment that the debate enters very murky waters. I could pass this author's statement off by saying that the Liahona was quite different than the mariners compass, that according to the narrative itself the Liahona worked on the principles of "faith, heed and diligence" with no mention of magnetism, and that it also had writing that was changed from time to time. But like any self-respecting student of the Book of Mormon these days I would at least want to know as much history as possible on the development of the magnetic compass.

While I have documented the details of what follows in my book, *The Liahona, Miracles by Small Means*, I will briefly here give the reader an overview of the "history" of magnetism and the magnetic compass relative to Lehi and Nephi's travels.

## Knowledge of Magnetism in Ancient China

Knowledge of Magnetism in Ancient China



Spoon compass

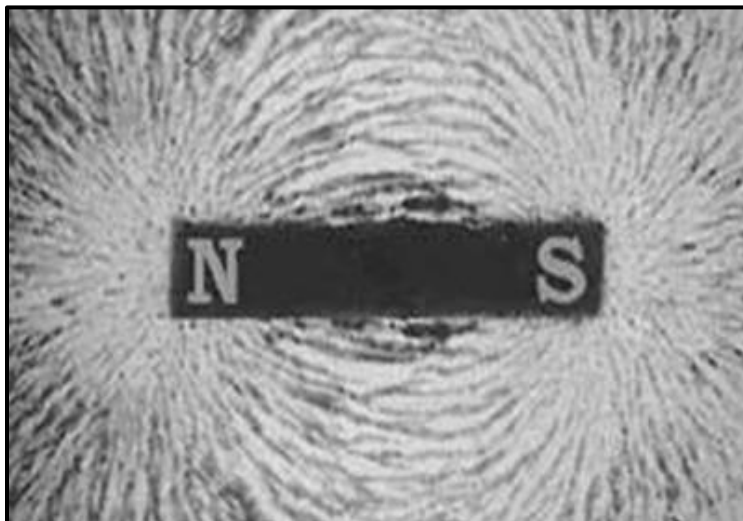
The most oft-repeated assertions that I have come across in my studies about the compass are that for Europe, the mariners compass was first referred to by Alexander Neckam in the year 1190. And the first reference to a mariners compass or compass spoon in China was in Zhu Yu's "Pigzhou Table Talks" in the year 1117. Yet there seems to be confusion on whether we are talking about an "official" mariners compass, or just

the ability to tell direction by the polarity of iron or naturally occurring lodestone. Let me first address lodestone.



Lodestone

One of the particular oxides of iron is called magnetite. The chemical formula is  $\text{Fe}_3\text{O}_4$ . Yet scientists have noted that only a small amount of the magnetite present on Earth is found to be magnetized. This naturally magnetized magnetite is what we call lodestone.



North-south polarity

Magnetism implies North-South polarity, and this can be transferred to iron or steel by placing the metal in a north-south direction and rubbing it with lodestone.

Various Dates of Magnetic Use in China

101 BC – Chinese ships reached India with a compass

221 BC – The compass was first made during Qin dynasty

271 BC – Chinese mathematicians invented the compass

4th Cent BC – First mention of directional compass in print

Various Dates of Magnetic Discovery & Use

Now we know that lodestone was discovered and used in ancient times in China, but when? It has been previously stated that AD 1117 has been accepted by some for the origin of the mariners compass in China. But other accounts differ dramatically in dating origins for magnetic use in China. For example:

One account notes that magnetism in China was first mentioned in **AD 121** when Hintschin compiled a dictionary called "Choue-Wen" in which it was said that lodestone communicates polarity to iron.

Another account records that in **101 BC** Chinese ships reached India with the help of a compass.

Another account records that in **221 BC** the Compass was first made during the Qin dynasty.

In another account it is recorded that in **271 BC** Chinese mathematicians invented the compass.

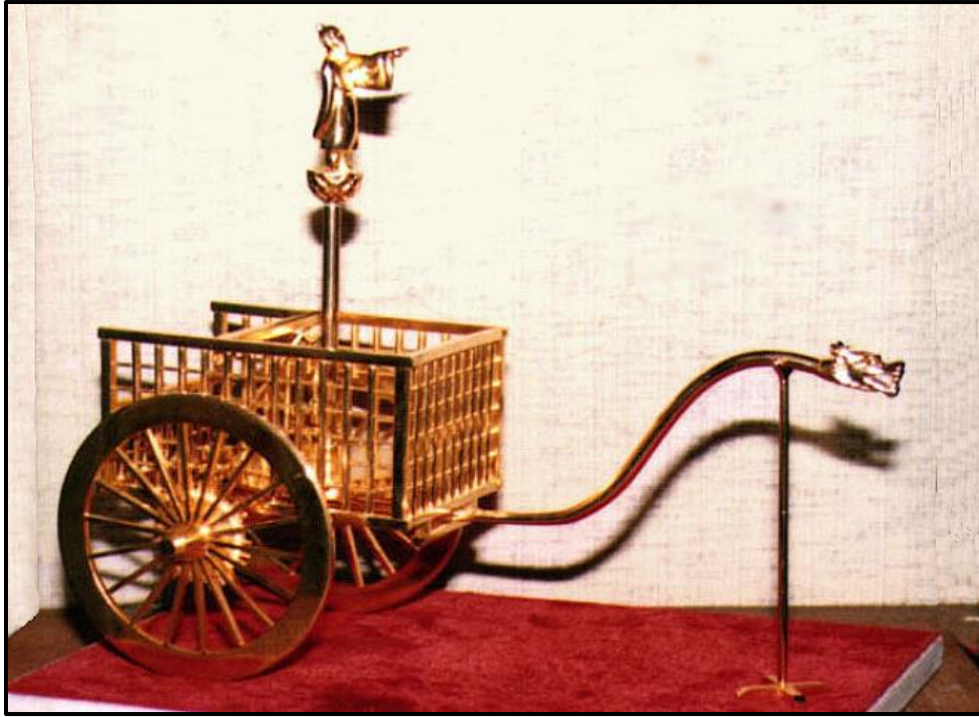
Still another account records that in the **4th cent. BC** - first mention was made of a directional magnet in print in "The Book of the Devil Valley Master."



Alexander Humboldt



Renown world traveler and historian Alexander Von Humboldt wrote that in **1110 BC** - Tcheou Koung taught the use of the magnetic needle and compass to ambassadors from Tonquin. The instrument was called "Tchi-nan" (or chariot of the south)



Ho ang Ti's Chariot

It is recorded that about **2700 BC**- Emperor Ho-ang-ti placed a magnetic figure with an extended arm on the front of chariots. This magnetic figure swiveled to point to magnetic south in order to know where they were going at all times and conditions. So is it plausible that by 600 BC, China could have known the principles of a magnetic compass?



Feng Shui Compass

It might be interesting to note here that by 3000 BC, the Chinese began orienting their buildings 10 degrees from true north in order to achieve harmony according to a philosophy termed Feng Shui. Feng Shui compasses were the precursor to the magnetic compass. Intriguingly, somewhat like the Liahona, the Feng Shui compass had writing on it that corresponded with the directions given.

Knowledge of Magnetism  
From Mesopotamia  
to India and Arabia

Knowledge of Magnetism from Mesopotamia to Arabia and India



Mesopotamia

Mesopotamia (within the red horseshoe) is looked at biblically as the cradle of civilization after the Flood. Mesopotamia is also looked at by some for early shipbuilding and sea travel.



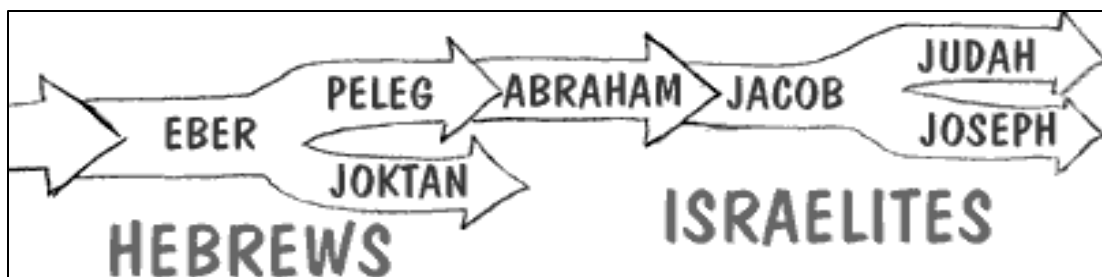
Epic of Gilgamesh (Mesopotamian origins)

Mesopotamian origins are recorded in the 3rd millennium record "The Epic of Gilgamesh" In this story (which is related to the Bible story of Noah), Gilgamesh (identified as Nimrod of the Bible) desired eternal life. He desired to speak with Utnapishtim (or Noah) because Utnapishtim (or Noah) had survived the Flood, and was made immortal. In order to reach Utnapishtim (or Noah), Gilgamesh (or Nimrod) had to be conveyed there by Urshanabi, Utnapishtim's boatman. It is said in this story that Urshanabi navigated across waters to reach Utnapishtim (or Noah) using Quote "special stones." Some scholars have equated these "stone things" with pieces of lodestone. Is it possible that Noah had some sort of directional device made with lodestones to guide him while in the ark?



Noah's Sons in Bible Lands

Genesis chapter 10 chronicles the spread of Noah's sons (Shem, Ham and Japeth) from Mesopotamia after the Flood. Shem's descendants spread throughout the northern and southern parts of the Arabian Peninsula.



Joktan's sons: Jarah (Jared) & Ophir

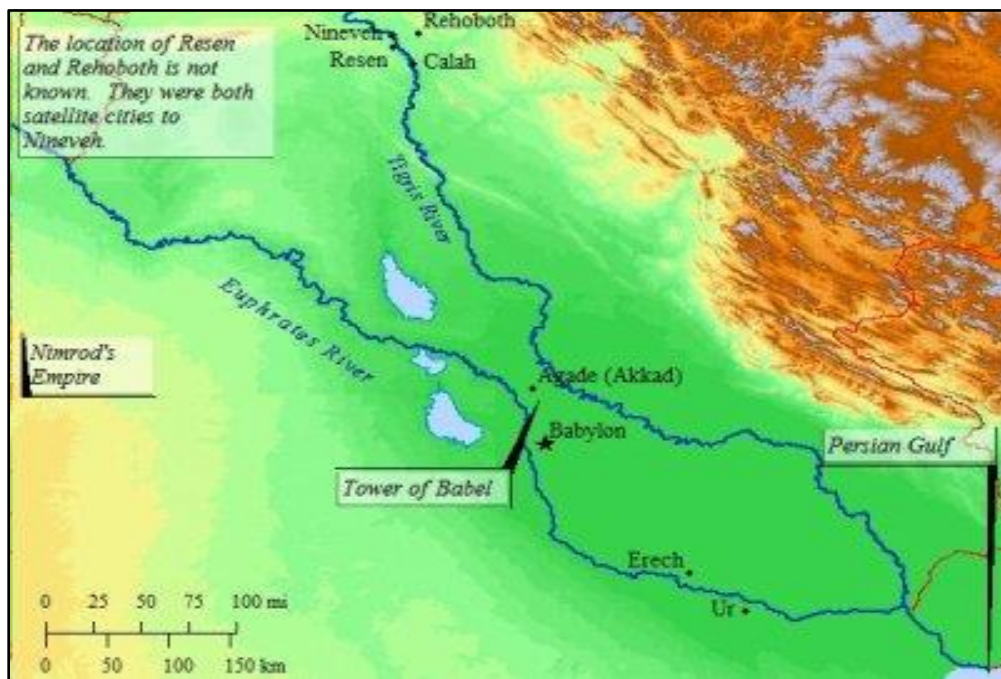
Shem's great-grandson was named Eber. And Eber had two sons worth mentioning here: One of these sons, named Peleg was said to have lived in the time when the people of the earth were divided. From Peleg descended Abraham and the house of Israel. Another son of Eber was named Joktan. And Joktan also had two sons worth mentioning. One named "Jerah" (or "Jered" in some bibles) and one named "Ophir"





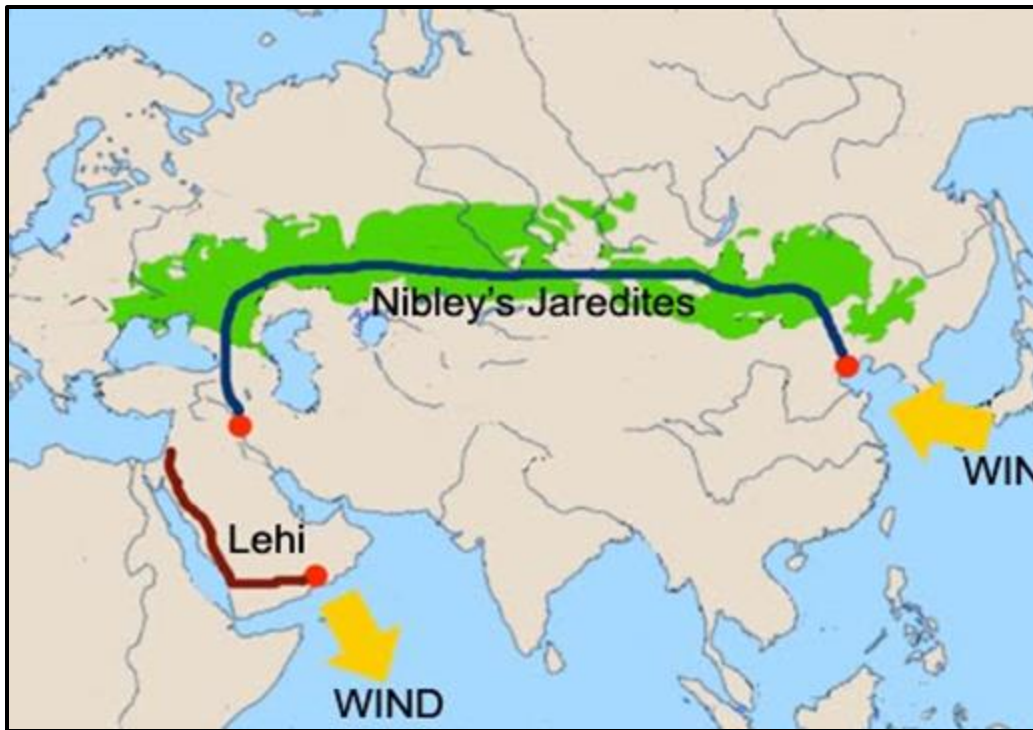
Tower of Babel

From a Book of Mormon perspective Jared and his brother are said to have departed from the great Tower.



The Tower of Babel Map

The Tower of Babel has traditionally been located in Mesopotamia. Jared traveled by land, and sometimes across water with barges until they reached QUOTE "that great sea which divideth the lands." (Eth 2:13)



Nibley Jaredite Trail

Traditionally, members of the Church have followed Hugh Nibley's theory for the Jaredite Trail, with Jared's party traveling from Mesopotamia eastward to the Pacific coast of China.



Pottery Trail

However recently, George Potter, as well as others have proposed that Jared's party traveled southward to the southern coast of the Arabian peninsula.





Dhofar, Oman

In the Bible, Joktan's sons were said to have dwelt on the southern coast of Arabia from Mesha on the west to Sephar (or Dhofar) on the east in what is now modern Oman. Were Joktan's sons, Jared and his brother (Ophir) part of a migration? And if so, were they the Jared and the brother of Jared mentioned in the Book of Mormon? And if so, was Jared's migration to the New World the basis for the saying that Peleg lived in the time when the world was divided?

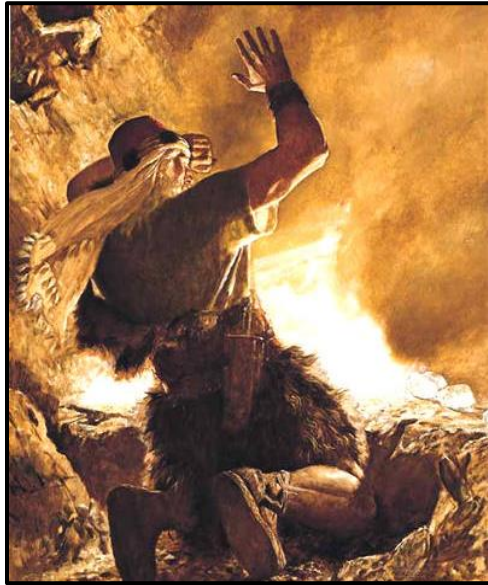
Perhaps and perhaps not. It is interesting though that Dhofar has been historically associated with the name Ophir (the name of the biblical brother of Jared). And that by the 3rd millennium BC maritime relations had been established between Mesopotamia and Dhofar through the Persian Gulf.



The Jaredite Barges

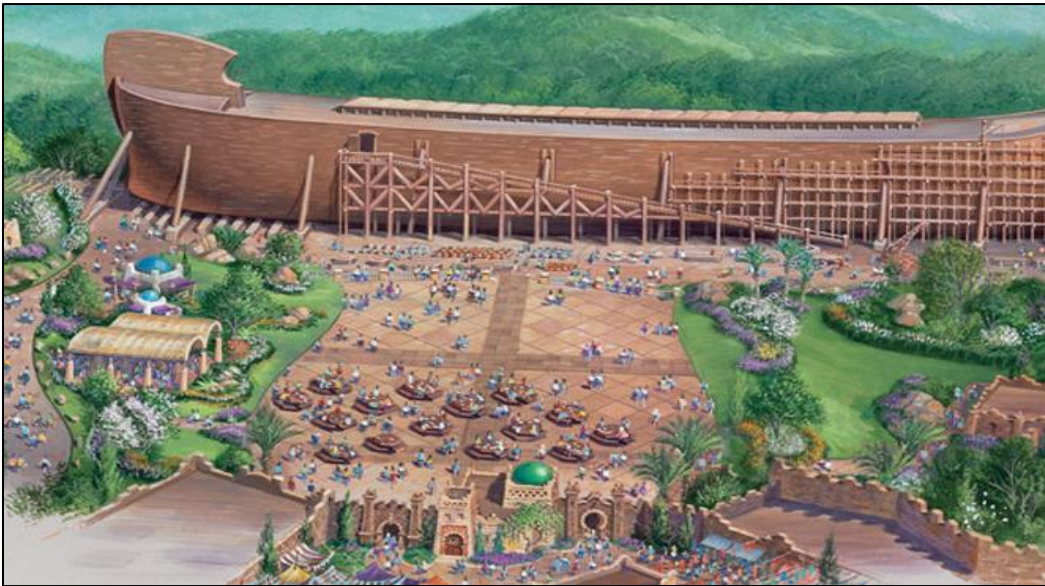
Whatever the direction of the Jaredite trail, Jared and his brother ultimately faced the challenge of building some boats or barges that would get them across the great sea.

These barges were tight like a dish and without windows, in order to withstand the waves. But this created a vision problem. The Brother of Jared asked the Lord for an answer, but the Lord left him on his own to come up with that answer.



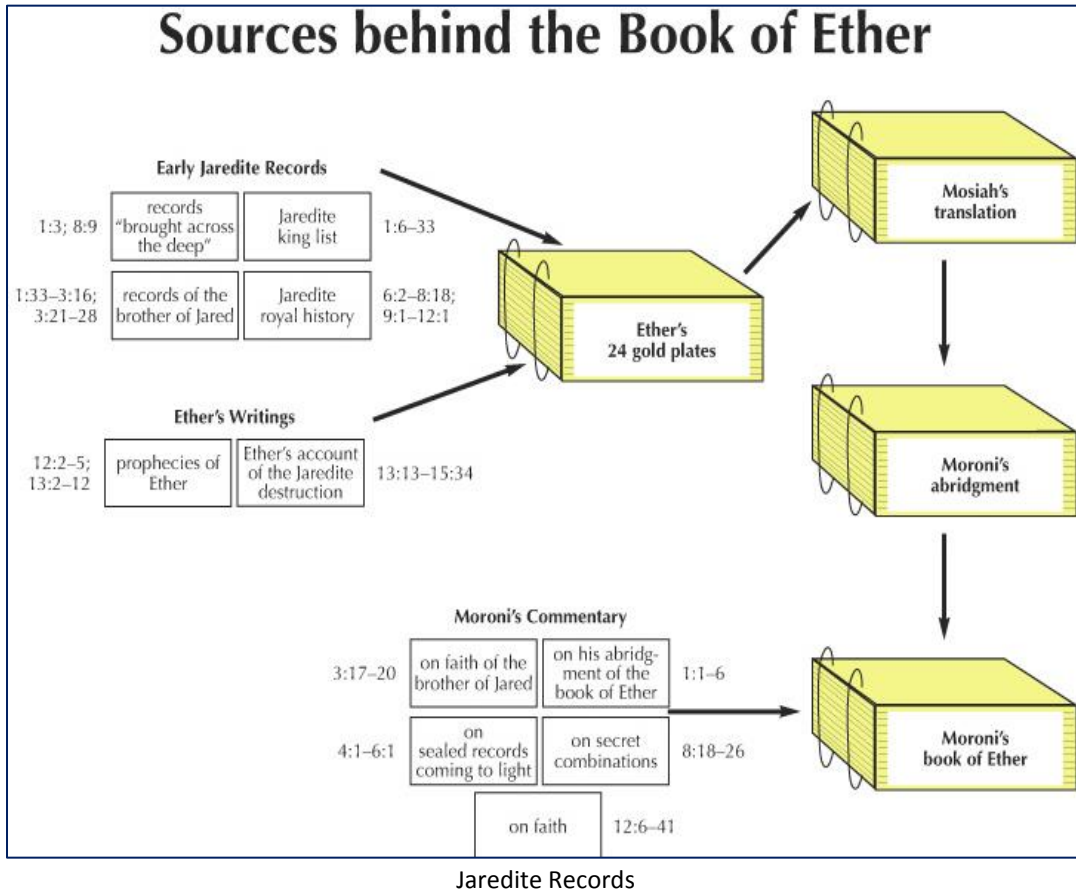
The Brother of Jared

The brother of Jared chose to molten a number of stones, two for each barge, and then ask the Lord for help. In view of the Mesopotamian origins story regarding the "special stones" used for navigating across the sea that had helped Utnapishtim or Noah survive the flood, and in view of the fact that when the Jaredite barges were sealed, they could not see to navigate, is it possible that the stones that the brother of Jared moltened were capable of becoming magnetic lodestones when touched by the finger of the Lord?



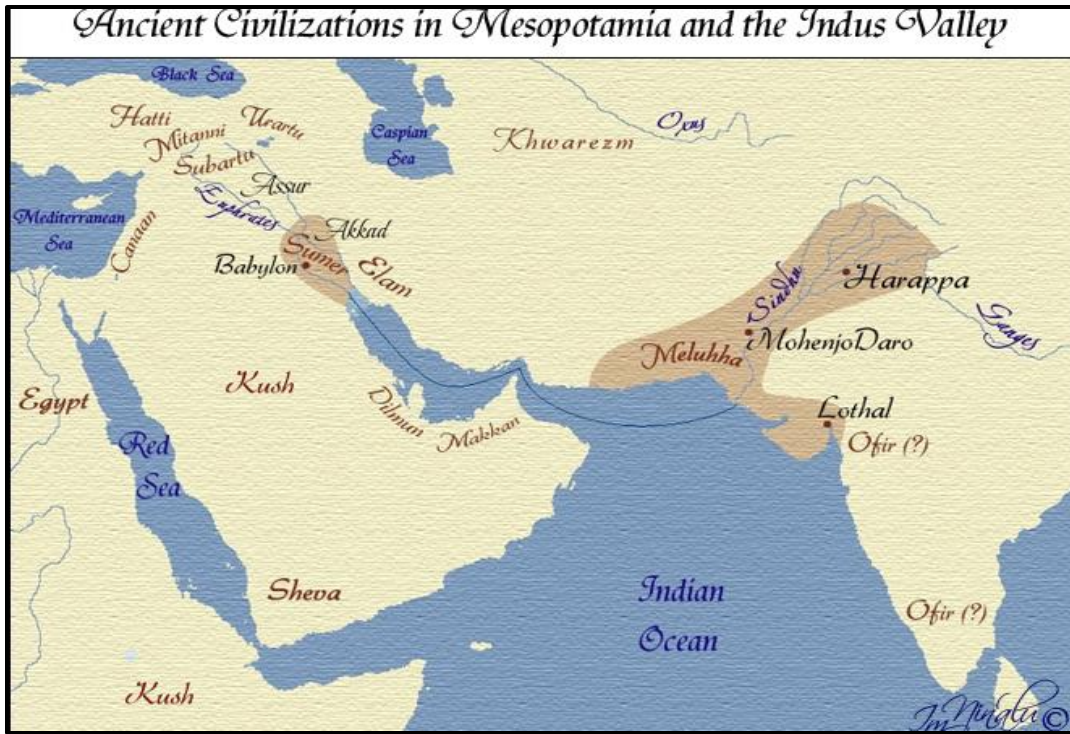
Noah's Ark

One has to wonder why the brother of Jared chose to prepare the stones at all? Was he being guided by what he had read or heard concerning the stories of Noah and the ark? Were the Jaredite barges similar in design to Noah's ark? We know that some of the stories of Noah were passed down to his descendants such as the Israelites because we have these stories in our Bible.



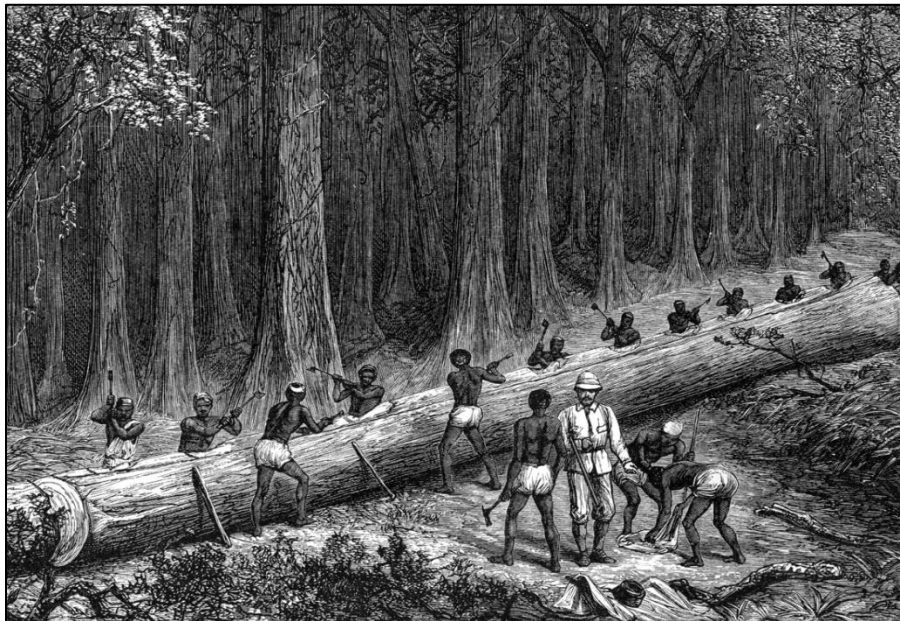
But were there more details about Noah contained in the records that Jared and his brother carried with them (see Eth 1:5)--details that might have influenced their actions? And were there more details of Noah contained in the record of the tribe of Joseph, or Brass Plates that Nephi obtained that might have influenced his actions in regards to the Liahona? Who knows, but these are interesting perspectives to contemplate.





Migration from Mesopotamia to India

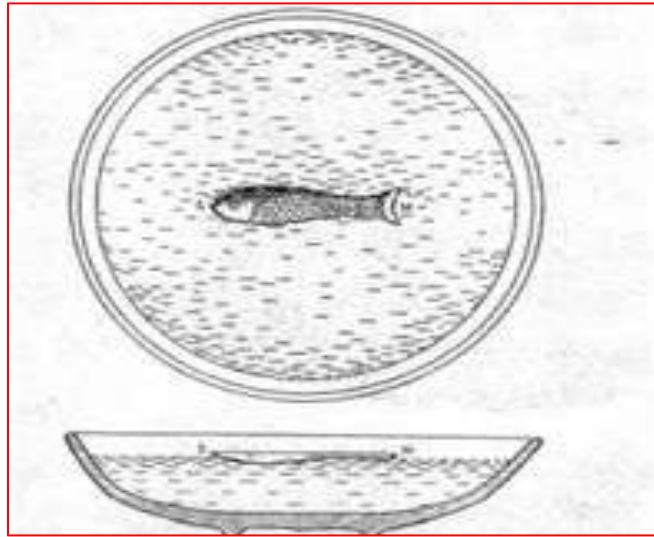
By at least the 3rd millennium B.C., civilization had moved from Mesopotamia to India.



Teak trees in India

By at least 2000 B.C., ocean shipbuilding was known in India. One of the big reasons was teak wood--tall, hard, straight trees for hulls, masts and spars, and resistant to sea worms that can bore through a hull and ruin a ship. This teak wood was so valuable for

shipbuilding that it soon began to be shipped to the southern coast of Arabia.



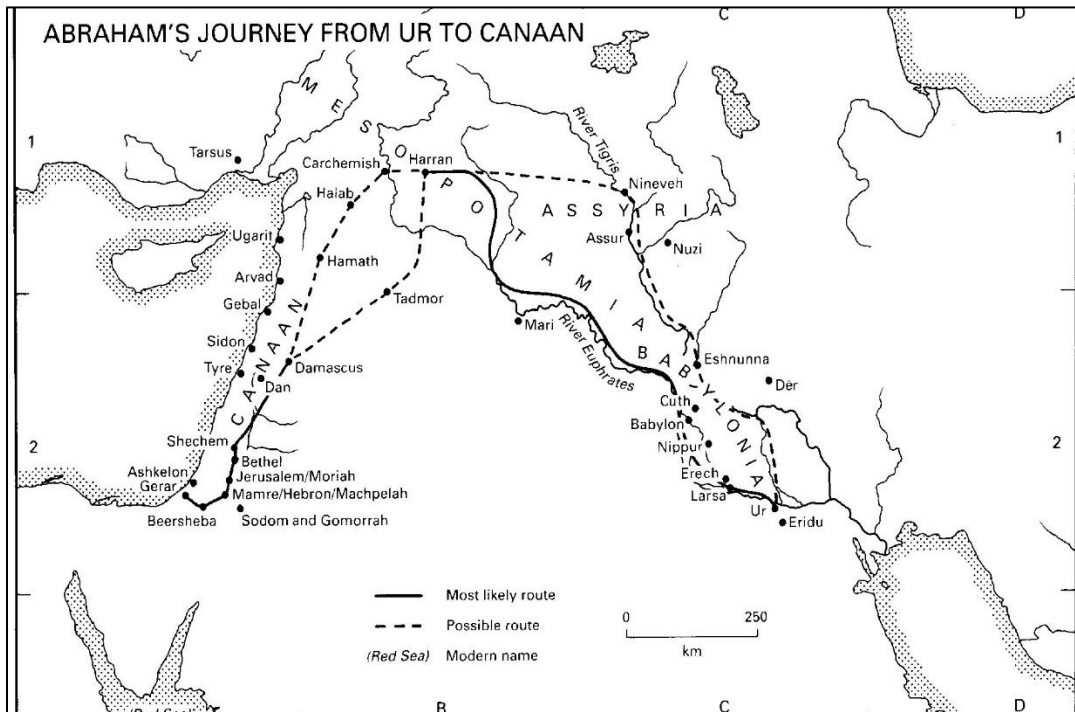
**Iron Fish compass**

In the ancient Indian language of Sanskrit, there is a reference to lodestone as Quote "the precious stone beloved of Iron." The Sanskrit words "Maccha Yantra" (meaning fish machine) were attributed to an ancient mariner's navigational device, which consisted of a north-pointing lodestone shaped like a fish and floating in a bowl of water. The Sanskrit language became dead over 23 hundred years ago. Thus one might say that the principles of the magnetic mariners compass were known in India as early as 300 B.C. and possibly centuries before.

**CHAPTER 5**  
**Phoenician Knowledge of Magnetism**  
**(Mediterranean)**

**Chapter 5: Phoenician Knowledge of Magnetism (Mediterranean)**

Chapter 5: Knowledge of Magnetism among the Phoenicians



Abraham's Journey from Ur to Canaan

Abraham was born about 1800 BC in Ur of Mesopotamia. We know from the Book of Abraham that he fled Ur and traveled to Canaan. According to another ancient historical text, QUOTE "Abraham excelled all in nobility and wisdom; he sought and obtained the knowledge of astrology. At God's command, he traveled to Phoenicia and dwelt there. He pleased the Phoenician king by teaching the Phoenicians the cycles of the sun and moon and everything else as well." Thus the early Phoenicians might have gained knowledge from Abraham about the movements of planets and stars to such a degree that they obtained superiority in navigation over the seas.



Phoenicia

Phoenicia existed anciently along the Mediterranean coast in Canaan, or in what is now Lebanon and Syria. The two main ports of Phoenicia were Tyre & Sidon



Shellfish "Murex"

The word Sidon means "fish." The Phoenicians were known for extracting an extremely special purple dye from the shellfish "Murex."





Phoenios means "purple"

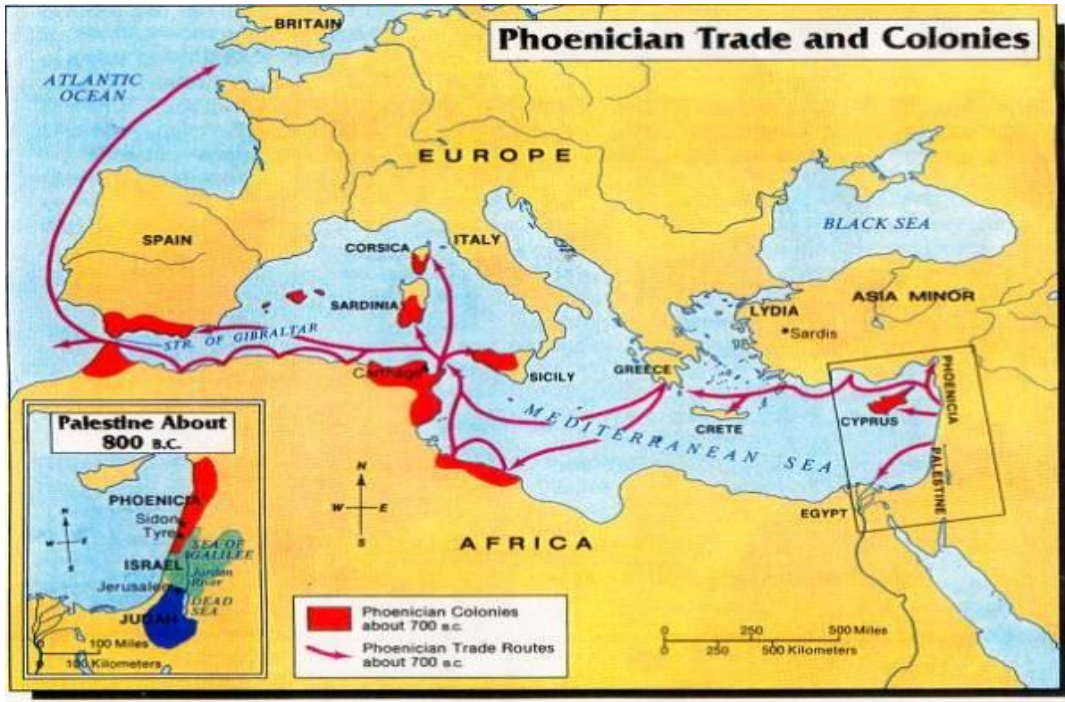
The term Phoenios means purple--the type of purple that was used in royal robes--the reason being that it took hundreds of shellfish to produce enough dye for the robes, thus rendering them very expensive.



Robe of Christ

In Matthew chapter 27 it gives an account of Christ being brought before Pilate. It says that QUOTE, they stripped him, and put on him a scarlet robe. And when they had platted a crown of thorns, they put it upon his head, and a reed in his right hand, and they bowed the knee before him and mocked him, saying, Hail, King of the Jews. Interestingly, in the Joseph Smith Translation of the New Testament, the word "scarlet"

in these verses describing Christ's robe has been replaced by the word "purple."



Phoenician colonies

The Phoenicians completely controlled the sea trade in the Mediterranean and Atlantic Ocean for over a thousand years (between 1550 B.C and 300 B.C (see Ezekiel 27:3). They expanded to colonize all of the Mediterranean. Phoenician ships traveled the 25 hundred mile length of the Mediterranean to Spain. And then they traveled 2000 miles beyond to Britain and Norway on the north. They brought tin from Cornwall, England and copper from Cyprus and made BRONZE (possibly the "brass" of the Book of Mormon) which they became famous for. Their king Hiram of Tyre provided the materials and metallurgy for Solomon's temple in 950 B.C. Yet we lack almost all of the Phoenician records. Only a single work survives.



Phoenician Ship

Phoenician ships were large enough to carry hundreds of people. They traveled not only by day, but also by night, and oriented themselves by using a "Pole Star" among other things.



Phoenicians Circumnavigated Africa in 600 BC

In 600 B.C., Egyptian king Necho II had the Phoenicians circumnavigate Africa. Starting at Ezion-geber on the tip of the Red Sea Gulf of Aqaba, they sailed clockwise until they returned through the Mediterranean Sea to Egypt.



Phoenicia Expedition

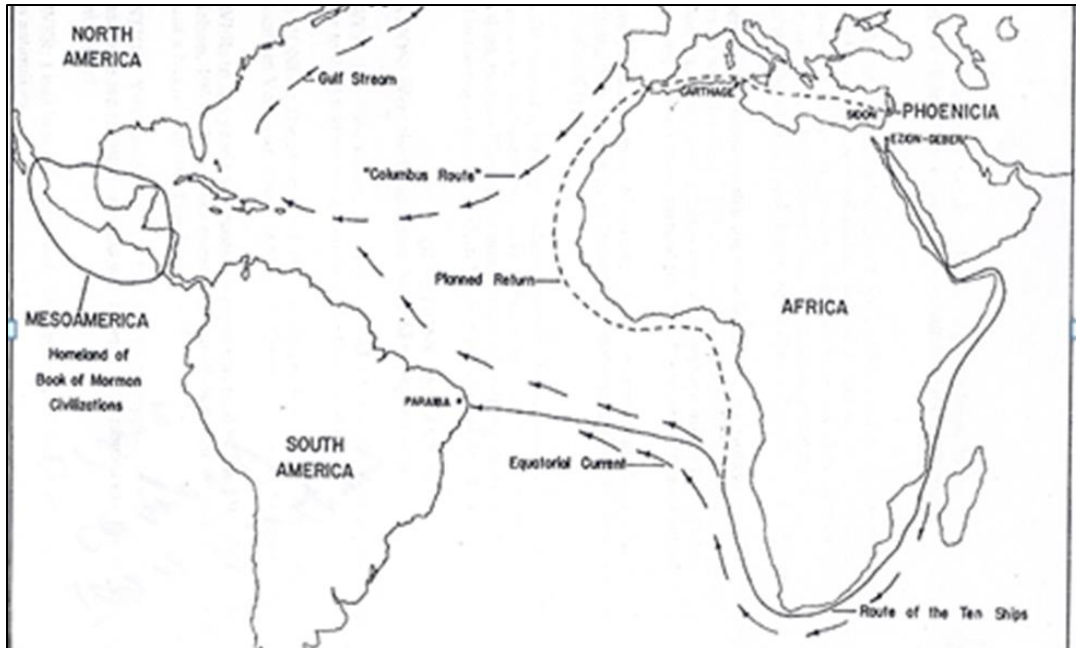


Recently mariners attempted to authentically recreate this circumnavigation with a model Phoenician boat. This map shows their actual route. As you can see the distance from Africa to America at one point is less than the distance across the Mediterranean. On this expedition, they unintentionally drifted within 400 miles of the Caribbean islands, being caught in the circular currents and winds that move endlessly around in the North and South Atlantic.



Paraiba Stone

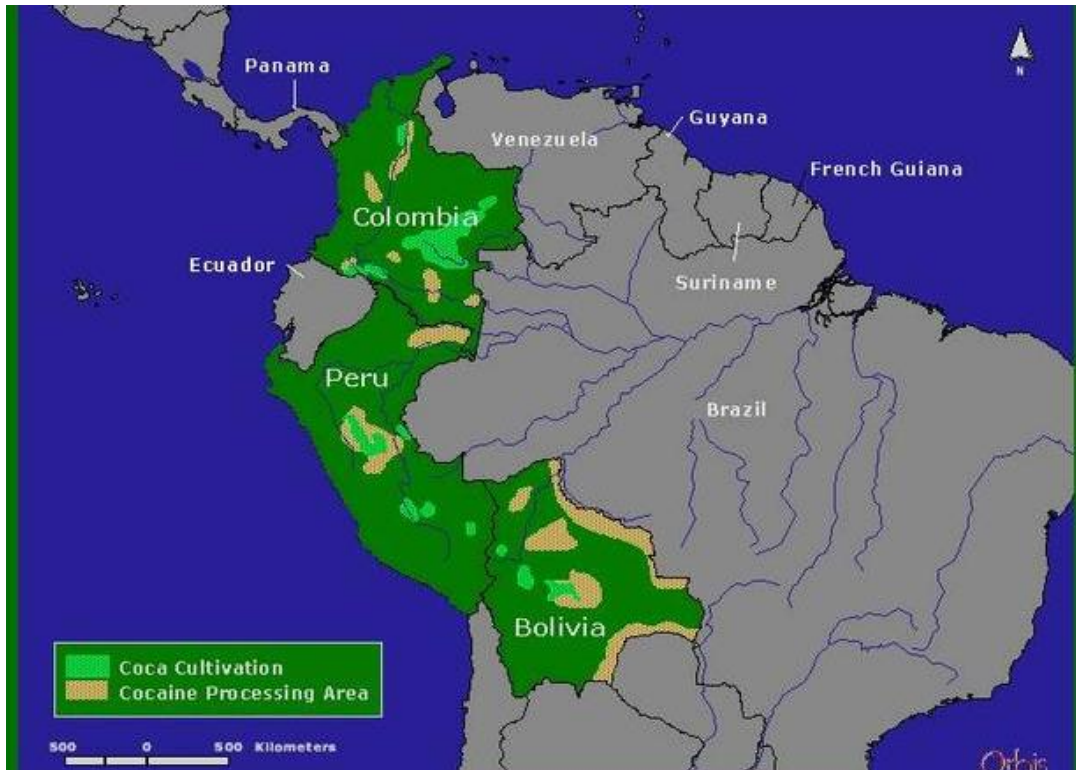
There is much evidence to suggest that Phoenicians landed in America. There have been many inscriptions unearthed. One of the most famous was located in Paraiba, on the eastern coast of Brazil, in South America. In 1872, a stone with strange characters was found by slaves looking for building materials on a Brazilian plantation. An inscription was made and sent to a Dr. Netto, director of the National Museum in Rio de Janeiro. Netto announced that the stone was inscribed by Phoenicians who had landed in Brazil centuries before Christ. Because two other translators differed with that message, and because the original stone had been lost because of a native uprising displacing plantation owners in the area, the Paraiba inscription was declared a fake by the eminent French historian and philologist Ernest Renan, who added that the text contained incorrect grammar and expressions.



Chessman: Phoenicians and the Ancient Civilizations of America

Almost a century later, Cyrus Gordon head of Mediterranean Studies at Brandies University, revisited the Paraiba inscription and declared it to be genuine. Recently unearthed Phoenician inscriptions had supported the use of the grammar and expressions that Renan had condemned a century earlier. Gordon dated the script to the sixth century BC. His translation reads as follows:

We are sons of Canaan from Sidon . . . We sailed from Ezion-geber into the Red Sea and voyaged with ten ships. We were at sea together for two years around Africa but were separated by the hand of Baal . . . We have come here . . .



Cocaine areas of South America

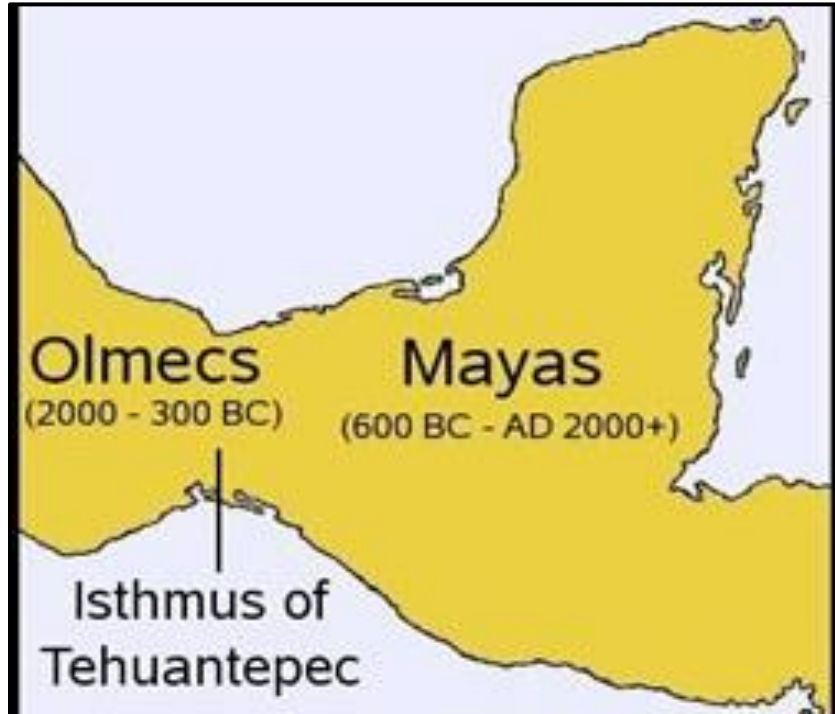
Cocaine is derived from the coca plant which is native to the high mountain ranges of South America. Interestingly, cocaine from South America has been found in Egyptian mummies, which makes one wonder how it got to Egypt if not by the Phoenicians.



**Isthmus of Tehuantepec**

Another evidence of Phoenicians in the Americas is found in Mexico. The Phoenician purple dye process has been passed down through the centuries in the area of the

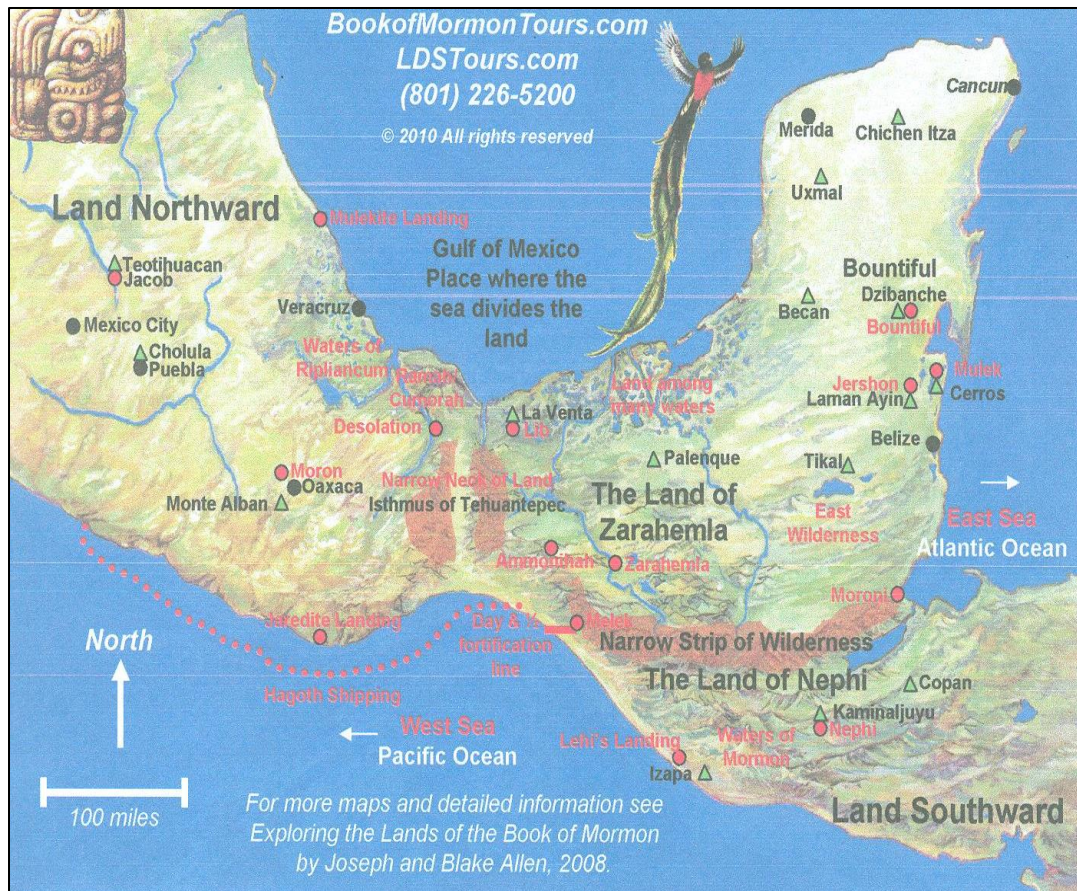
Isthmus of Tehuantepec, illustrated by the top red line on the map.



Olmecs & Mayas

The Isthmus of Tehuantepec area is the location of the Olmec Civilization, which existed in the land northward of the Isthmus from abt. 2000 BC to abt. 300 BC. The Maya Civilization existed in the land southward of the Isthmus from about 600 BC to about 400 AD.





Book of Mormon Lands

This is one of many reasons why certain Book of Mormon scholars place Book of Mormon Lands in this location—termed Mesoamerica. All of the Phoenician artifacts found in the Americas have been located on the Atlantic coast. These Mesoamerican theorists point to the fact that the People of Zarahemla had a river named Sidon that emptied into the Atlantic Ocean. Ross T. Christensen writes:

The Sidon is the only river that is explicitly mentioned in the Book of Mormon, the only one that is actually given a name. WHY was it that the Nephites gave the name of the principal metropolis of the Phoenician homeland--Sidon--to their main watercourse? The answer is probably simply this: the Nephites did NOT give it that name; the Mulekites [or the People of Zarahemla] did. . . . This suggests, does it not, something of the origin of that people.

Was Mulek brought over to America by a Phoenician ship?

**mlk    Mu-loch    Mulek**

mlk    Mu-loch Mulek

Other evidence of the Phoenicians is found in the Original Book of Mormon manuscripts. According to Royal Skousen, the term that is now found in our present Book of Mormon as "Mulek" (M-u-l-e-k) was first recorded in the extant Book of Mormon manuscripts in Mosiah 25:1 as "Muloch" (M-u-l-o-c-h). While "Mulek" (with a "k") is a Hebrew term, "Muloch" (with a "ch") is a semitic Canaanite spelling, and as such, links this person and people with the Phoenicians. Semitic writing tends to omit vowels. Interestingly, the Hebrew letters "mlk" usually stand for melek "king." But when vocalized they have been traditionally understood as a proper name, and can be written as Muloch or Moloch (with a "ch"). In the Bible, the god of the Canaanites and Phoenicians was named "Moloch." Usually this God was associated with child sacrifice, whereby children were "passed through the fire," ending in death. However, some have suggested a non-lethal rite of purification by fire instead, although perhaps dangerous. Such allusions to a "king," a dangerous purification process, and the spelling of Mulek with a "ch" would fit the Book of Mormon Mulek, who most probably would have had to purify his life from that of his wicked father, King Zedekiah, and who was most probably brought to America on a Phoenician ship.



Bactellia: Stones that moved (Lodestone?)

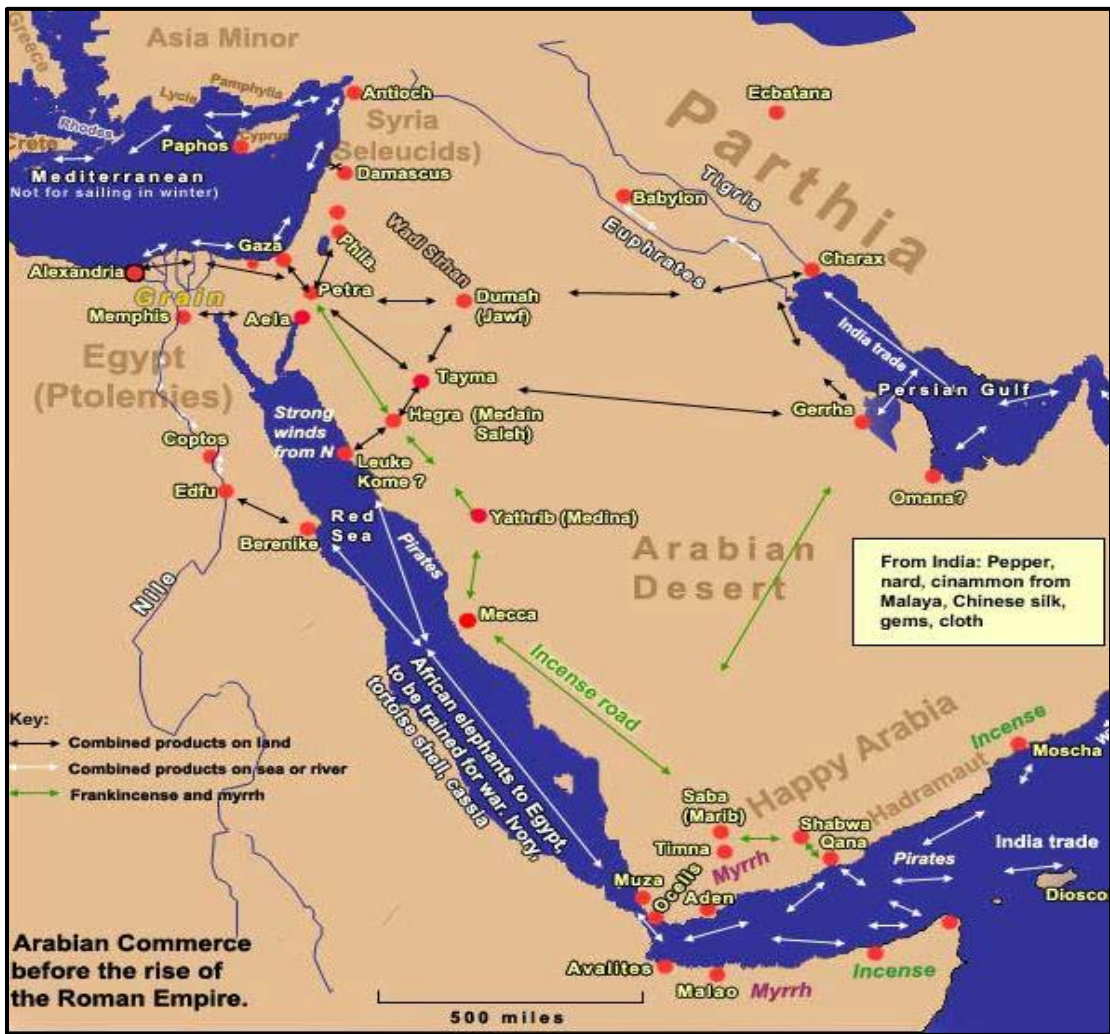
One final note on the Phoenicians. Their one surviving record speaks of their maritime ancestor named Ouranos (who some equate with Noah). It is said that this man had QUOTE "bactellia" or QUOTE "stones that moved as having life." Could these stones that moved have been lodestones?



CHAPTER 6  
 Knowledge of Magnetism  
 in Ancient Israel

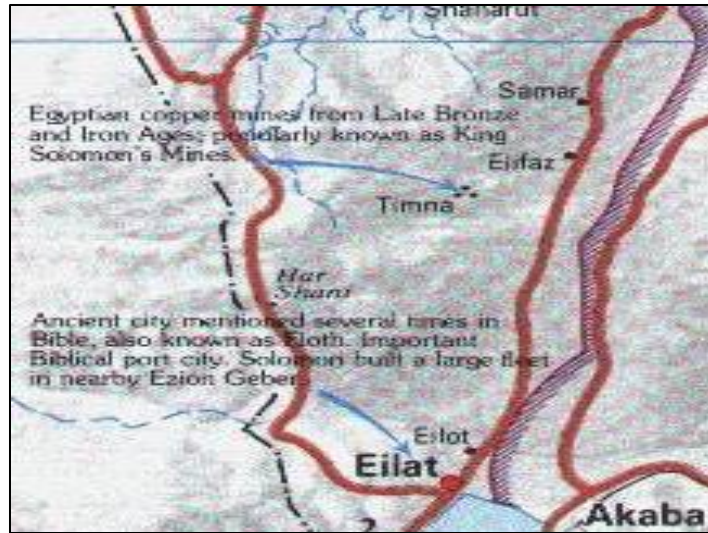
Chapter 6: Knowledge of Magnetism in Ancient Israel

Chapter 6: Knowledge of magnetism in ancient Israel



Solomon's commercial routes

The scriptures (1 Kings chapters 9 & 10) record that in 950 BC, Solomon established trade to many distant places, but in particular, he opened up the Red Sea.



Eilat, Aqaba

Solomon built ships on the Red Sea with the help of Hiram, king of the Phoenicians. Solomon established copper mines near there in Timna with refining facilities using the principle of the Bessemer blast furnace. He established a port city Eilat on the Gulf of Aqaba, and built a large fleet in nearby Ezion Geber. Large iron nails and copper have been found in this area.

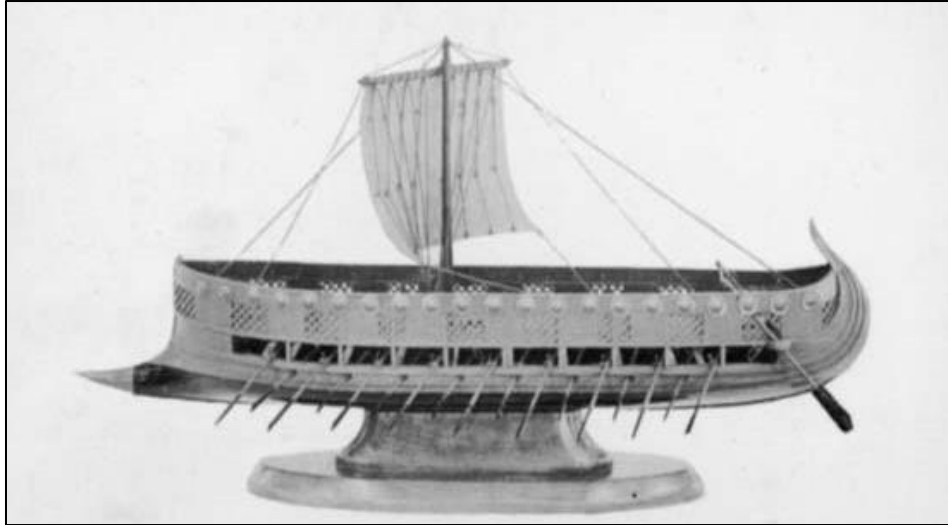
From a Book of Mormon perspective, Solomon's port location, and his alliance with King Hiram of the Phoenicians would have brought all the metallurgical expertise of the Mediterranean to within a day or two's journey from where the Valley of Lemuel would be located.



Frankincense Trail

Solomon's ships helped ease the stranglehold of the Arabs on the Frankincense Trail that went through the desert to the Incense areas on the southern coast of Arabia. Some of their voyages lasted three years and were said to have gone to "Ophir" bringing back immense wealth in gold, etc. This combined effort of King Solomon and King Hiram

inspired awe from all the wealthy incense rulers. The Queen of Sheba, who initially came to visit Solomon with the intention of impressing him with a gift worth three million dollars, was shocked when Solomon's gifts in return absolutely dwarfed what she had given him.



Model of a Phoenician Bireme Ship

Solomon's ships took so much time and brought back so much gold that some have claimed that they traveled to the Americas, to the same locations that provided the Incas their overwhelming wealth in gold. The regular Phoenician ships at the time, called biremes, were not well-suited for such long voyages. This necessitated the building of ships referred to as "ships of Tarshish," which were more suitable for carrying large freights and venturing on long voyages. It is also reasonable to suppose that in evaluating Phoenician seafaring prowess, that Solomon and Hiram would not have risked such immense investments on matters of chance.



King Hiram & Solomon's Temple



Interestingly, the Phoenician culture brought bronze metallurgy to Israel in addition to gold. King Hiram was responsible for providing and working the many objects of bronze in Solomon's Temple. Thus Nephi eventually could have had the metallurgical materials and metallurgical knowledge required to build the brass ball called the Liahona.



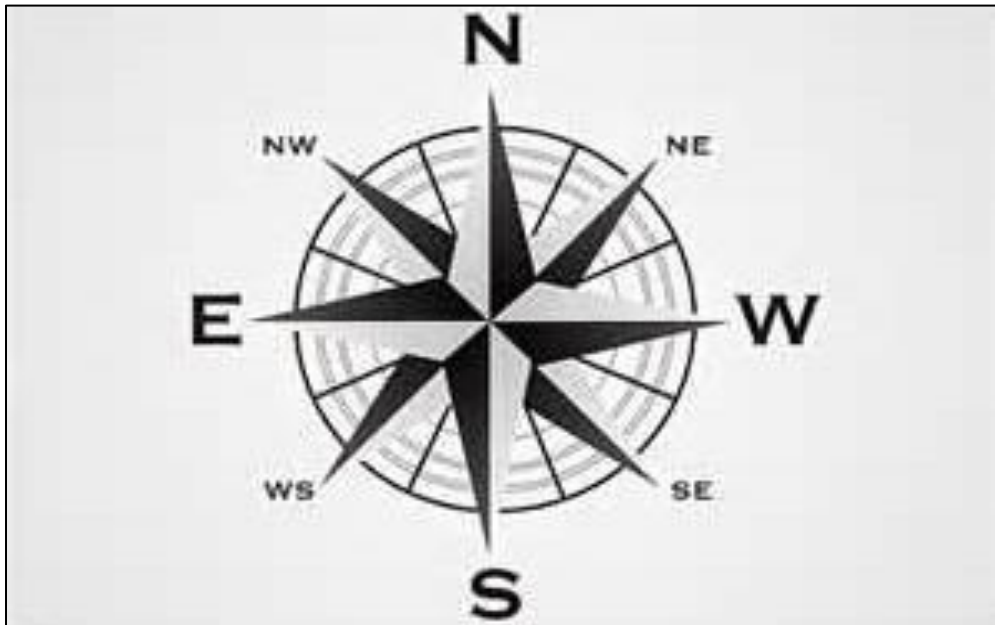
Etruscans

The Phoenicians also brought the Etruscan culture from the Mediterranean which was also famous for their metallurgy. The Etruscans were located in what is now Italy during Nephi's time.



Etruscan gold plates

These inscribed Etruscan gold plates date to about 600 BC.



16-part Windrose

Interestingly, the Etruscans have also been linked with the origins of the sixteen-part directional windrose on the compass.





Greece Frankincense Trail

A seemingly final factor that would relate to Nephi's possible construction of a magnetic Liahona would be the availability of magnetic lodestone. Interestingly, the northern parts of the Frankincense Trail extended from Arabia into the countries that bordered the northern shores of the Mediterranean.

**The Historical Greek Claim**

Magnetic lodestones were first discovered  
abt 600 BC in Magnesia, Greece

Magnesia-→ "magnet"

The Historical Greek Claim

The word magnet comes from the fact that the Greeks claimed that magnetic lodestones were first discovered in Magnesia, in central Greece about 600 BC. If this was the case, then this knowledge of lodestone would have been passed along down the Trail to Israel.

**Book of Job 28:18 (abt. 600 BC)**

For the price of wisdom is above rubies.  
The topaz [or lodestone] of Ethiopia  
shall not equal it."

Hebrew Book of Job

Interestingly, in the Hebrew scriptures, in the Book of Job, written about 600 B.C., there is written the following: QUOTE "For the price of wisdom is above rubies. The topaz of Ethiopia shall not equal it." (28:18) It is understood now that the term "Topaz" in this verse is NOT the topaz stone that we have become familiar with in modern times. It actually was a form of lodestone. The renown Old Testament commentator, Adam Clarke made the following comment on the topaz or lodestone mentioned in this verse. It is understood that the wisdom which aided man to make this discovery [of lodestone] and to apply it to the purposes of navigation, on the account of its polarity, is that wisdom which is above the price of rubies. The attractive properties of lodestone MUST have been observed from its first discovery; and there is every reason to believe that the magnet and its virtues were known in the east long before they were discovered in Europe.



Jewish High Priest's Breastplate

In the Jewish High Priests breastplate, there were 12 gems representing the 12 sons of Israel. One of those stones was a lodestone. The Hebrew (masoretic) name for the stone was "tarshish," which interestingly was also the name given to ships traveling to distant destinations.

## SUMMARY of Cultural Knowledge of Magnetism

Summary of Cultural Knowledge of Magnetism

So in summary, as we take into consideration the cultural knowledge of magnetism in China, India, Arabia, Phoenicia, and Israel, does it seem plausible that Nephi would have been in a position, chronologically, geographically, and culturally, to produce a magnetic Liahona with inspiration from the Lord? Before you answer, I would like to say a little bit more relative to a magnetic Liahona being constructed by QUOTE "the hand of the Lord."



Lodestone

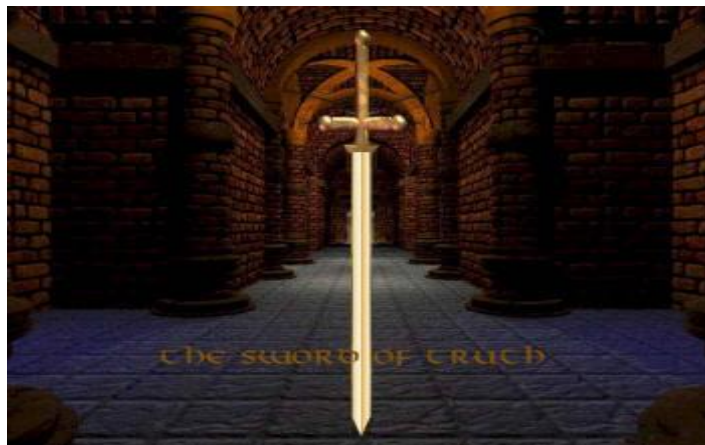
Scientists have noted that only a small amount of the iron oxide termed "magnetite" present on Earth is found to be magnetized. This naturally magnetized magnetite is what we call lodestone. While magnetite is attracted to a magnetic field in a similar manner as iron, most magnetite does not tend to become magnetized. It is not like lodestone. So one may ask, "Why such a difference?" What causes this difference?

Those are good questions, even today.



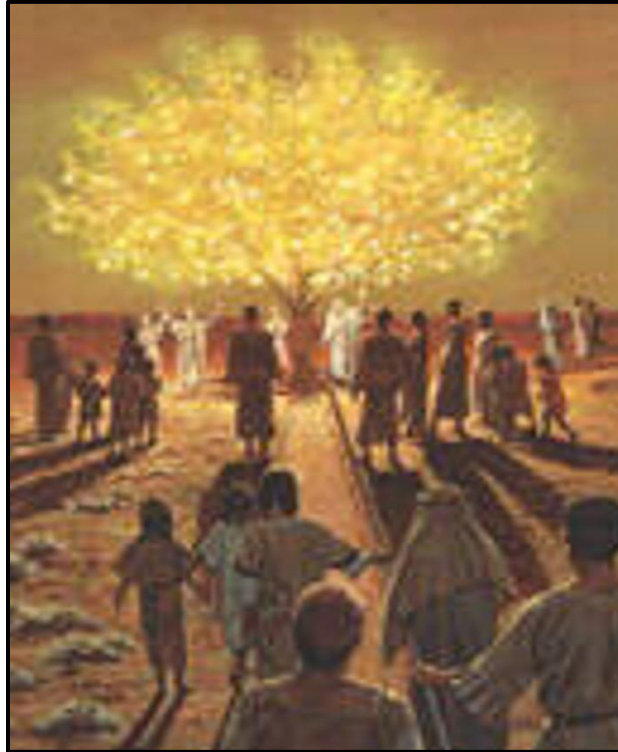
Lightning

The process by which lodestone is created has long been an open question in geology, but scientists do have clues. They have found that only magnetite with a particular crystalline structure remains magnetized and thus becomes a magnet. Some scientists have theorized that this crystalline structure is created when magnetite is struck by lightning. This theory is bolstered by the fact that most all lodestone is found on the surface of the Earth, not buried at great depth. Thus the magnetic power in lodestone would be due to the power and light coming from the heavens. Interestingly, the ancient Greeks and Egyptians believed as much; that is they believed that the power of lodestone was indeed celestial. Over time, men have used and studied the principles of magnetism. The attractive power of lodestone can now be increased a thousand times over in magnets. Electromagnetism has now come to be understood as the power and light that is not only essential to our modern way of life, but to life itself.



Sword of Truth

Now when we read the Bible or Book of Mormon, we come across certain symbolic phrases--phrases that replace details with symbolism. For example, the word of the Lord is often referred to as QUOTE "the sword of truth," because truth cuts through a myriad of falsehoods and lies. Thus a sword can be symbolic.



Holding Fast to the Iron Rod

Obedying the word of the Lord is sometimes referred to as QUOTE "holding fast to the iron rod," because by doing so the symbolic rod will safely guide us through a myriad of problems that temporarily block our vision.

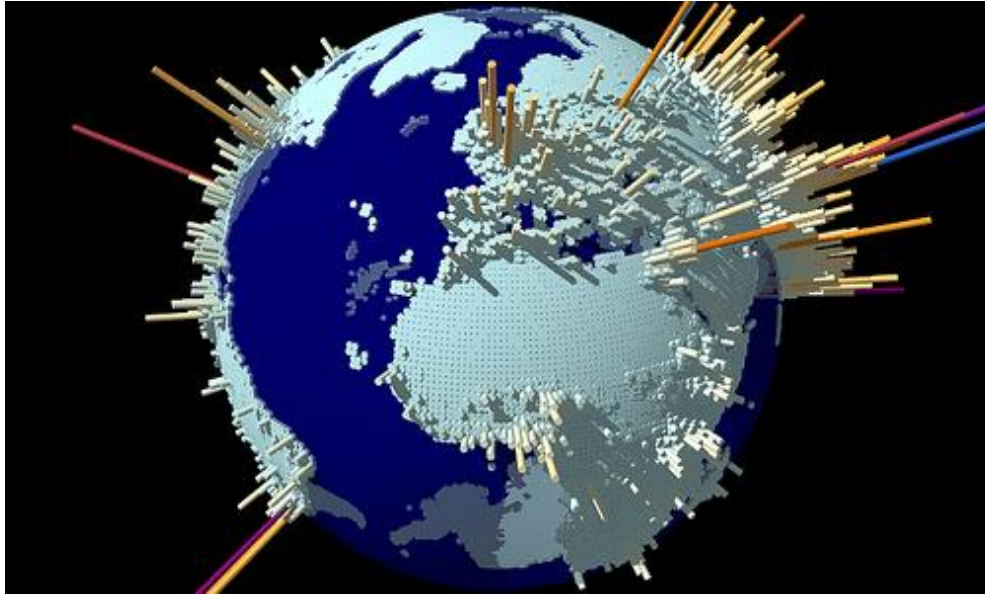
**A Liahona**  
**Miracles by Small Means**

A Liahona: Miracles by Small Means

Another symbolic phrase is QUOTE "the hand of the Lord," which is used to explain the overall power or force behind a myriad of actions or events. Thus, if you were to scripturally explain the creation of magnetic lodestone, or the resultant use of it's magnetic power, you could rightfully say that lodestone was "prepared by the hand of the Lord." This is the same phrase used to describe the power of the Liahona. So I hope



you don't condemn me too much for proposing the idea that the Liahona could have functioned, in part, by the use of a small magnetized iron rod, supplemented by a few words of the scriptures. Does not Alma say that the miracles related to the Liahona were created "by small means."? (37:41)



The Human Family Covering the Earth

In a way, as a member of the Church you can be compared to a magnetic Liahona. First of all, you are human—a part of a family of humans that cover the earth—much like iron or magnetite.

## A Member of The Church of Jesus Christ of Latter-day Saints

A Member of the Church of Jesus Christ of Latter-day Saints

But you are not like every other human, you have been changed by the light and power of God, much like lodestone. As a member of Christ's Church your inner spiritual structure is more connected---connected by crystals of principles and covenants. While other humans might be attracted to the gospel for short periods of time, most do not sustain that spirit because they lack your spiritual magnetism, or spiritual structure. The crystals of the gospel have not formed inside them. But you, on the other hand, have become a true gospel magnet, gathering family members, church members and friends around you, while pointing the direction to go. By relying on the words of God and the Prophets, you have become a Liahona. Indeed you can say that you were

"prepared by the hand of the Lord."

## Prepared by the Hand of the Lord

Prepared by the Hand of the Lord

So one might truly say that the principles behind a magnetic Liahona could be considered to be QUOTE prepared by the hand of the Lord. Although they are grand principles and celestial in nature, nevertheless they can be looked at as truly small means that bring about great things.

*Let me cite another example.*

**NO Temples**  
**1500 Years**

About 1500 Years -- No Temples

From the time of the great apostasy after Christ established his Church during the Meridian of time until the Restoration of his Church in the Latter-days, there were no true temples built and dedicated to the Lord, nor were there covenant rites performed..



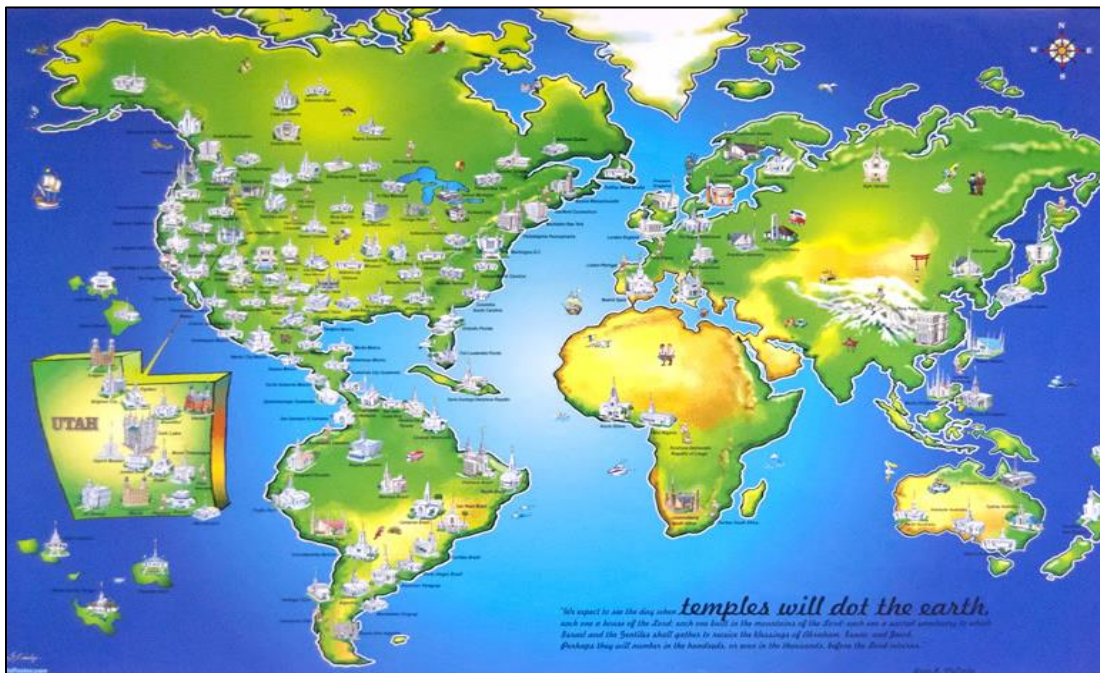
The Kirtland Temple was the first temple built in the Latter-days - 1836. The Nauvoo temple was dedicated in May, 1846. Full temple rites were administered there.

This restoration of temple rites might be considered a miracle. Yet from 1836 to 1982, a rough time period of about 146 years, only 20 more temples were constructed.



Gordon B. Hinckley

During President Gordon B. Hinckley's tenure in the First Presidency, he built 84 temples world-wide and had another 13 under construction. When viewing this achievement in the light of scriptural history, one might look at this as a miracle---not only for the number of temples constructed, but for the manner in which it facilitated the transformation of the LDS Church to become a world-wide church.



Temples Will Dot the Earth

This temple-building was a literal fulfillment of the prophetic words spoken in earlier times that temples would dot the earth.

## MIRACLES BY SMALL MEANS

Miracles by Small Means

Now if I were to propose that President Hinckley forged his own hammer and personally built these temples himself, you would think it an insult to your intelligence. Yet at the same time, isn't there a tendency among some to imagine Nephi forging his own hammer and personally building and launching a very complex, multi-ton ship? Relatively speaking, the construction of Nephi's ship would have required every bit as much skilled training and expertise as the construction of modern-day temples. So if it is okay for President Hinckley to seek outside construction expertise to accomplish his miracle, was it not okay for Nephi to have done the same? And can the same be said about the obtaining or the construction of the Liahona?





Lehi's boat to the Promised Land

This is a picture of Lehi (with the Liahona in his hand) and his family sailing to the Promised Land. This picture hangs in my office and has helped to keep me motivated during my 25 -year search for answers on the cultural aspects of the Book of Mormon. When I ponder how Nephi's boat or Nephi's Liahona came to be, for me it is miraculous enough that there might have existed unique locations during his time where all the necessary construction materials, all the necessary construction expertise, and all the necessary ocean-going navigational knowledge were present for Nephi's use and direction on a transoceanic journey. Was the inspiration of the Lord part of this miracle? Unquestionably, at every step in the construction process and also the navigation process. Yet even though Nephi understood that he absolutely needed the help and inspiration of the Lord, I believe Nephi also realized that he needed to do everything that he could physically, mentally, and spiritually do in regards to accomplishing the things which the Lord had commanded.

In my view, while we all might tend to look for immediate miracles that appear to be grand and magical to solve our problems, in reality most miracles occur almost daily by small means, and their accumulative effects become grand when looking back in time.



As Alma said to his son Helaman in regards to Lehi's family and the Liahona, QUOTE "therefore they had this miracle, and also many other miracles wrought by the power of God, day by day." (Alma 37:40)

[Alan C. Miner Personal Notes from The Liahona: Miracle by Small Means]

1 Nephi 16:10 **A Round Ball [the Liahona]:**

According to Hunter and Ferguson (*Ancient America and the Book of Mormon*, pp. 70-71) the Nephite name for the divine instrument, Liahona, may possibly be a composite of the two Hebrew words which describe the functioning of the instrument, "Lahab-hennah." These words mean "point" and "whither."

According to Reynolds and Sjodahl, the term Liahona is Hebrew with an Egyptian ending. It is the name which Lehi gave to the ball or director he found outside his tent. *L* is a Hebrew preposition meaning "to." *lah* is a Hebrew abbreviated form of "Jehovah," common in Hebrew names. *on* is the Hebrew name of the Egyptian "City of the Sun." . . . *L-iah-on* means, therefore, literally, "To God is Light" or, "of God is Light." That is to say, God gives light, as does the Sun. The final *a* reminds us that the Egyptian form of the Hebrew name *On* is *Annu* and that seems to be the form Lehi used. [Reynolds and Sjodahl, Commentary on the Book of Mormon, Vol. IV, pp. 178-179]



1 Nephi 16:10 **He [Lehi] beheld upon the ground a round ball of curious workmanship (illustration):** The Liahona. [The Church of Jesus Christ of Latter-day Saints, Gospel Art, #302]



1 Nephi 16:10 **He beheld upon the ground a round ball of curious workmanship (Illustration):** Lehi and the Liahona. Artist: Ronald Bergen. Painted for the Second International Art Competition, this painting by Ronald Bergen of Tempe, Arizona, illustrates Lehi's finding the Liahona. [The Church of Jesus Christ of Latter-day Saints, The Ensign, August 1994, inside back cover]



1 Nephi 16:10 **He [Lehi] beheld . . . a round ball of curious workmanship (Illustration):** Lehi. Artist: Stuart Heimdal. [Paul R. Cheesman, Great Leaders of the Book of Mormon, p. 13]



[youtube.com](https://www.youtube.com)

**1 Nephi 16:10 A Round Ball [the Liahona]:**

Hunter and Ferguson write that according to both the Popol Vuh [an ancient Guatemalan Indian history] and the Book of Mormon, the original ancestors had a sacred instrument. As indicted by the Popol Vuh, it was symbolic of the power of God which power was possessed by these early colonizers. . . . Concerning the deathbed statement of the original head of the colony, the Popol Vuh says: "Then Balam-Quitze left the symbol of his being: 'This is a remembrance which I leave for you. This shall be your power. I take my leave filled with sorrow,' he added." Then he left the symbol of his being, the Pizom-Gagal, as it was called. The Totonacapan [Guatemalan] account states that the Lord supplied the Giron-Gagal [director] and led the colony across the sea because they were "the sons of Abraham and of Jacob." [Milton R. Hunter and T. Stuart Ferguson, Ancient America and the Book of Mormon, pp. 66-72]

## NOTES

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- i. Strabo, *Geography*, Book XVI, chapter 4 &.
- ii. Groom (2), 213.
- iii. S. Kent Brown, "A Case for Lehi's Bondage in Arabia," in *Journal of Book of Mormon Studies*, Vol. 6, No. 2, Provo: F.A.R.M.S., p. 216.
- iv. William Wordsworth, "Thought of a Briton on the Subjugation of Switzerland," 1807.
- v. Translation of the Qur'an, by Abdulla Yusuf Ali, New York: Sound Vision, 1989.
- vi. Brian Doe (1), *Southern Arabia* (London: Thames and Hudson, 1971), 55.
- vii. Jeremiah was not unlike Lehi. Both were businessmen and amateur prophets. Hugh W. Nibley (2), *Teachings of the Book of Mormon* (Provo, Utah: F.A.R.M.S., 1993), 91.
- viii. S. B. Miles, 2,3,498.
- ix. Philip K. Hitti, *History of the Arabs* (Hampshire & London: Macmillan Education Ltd, 1970), 41.
- x. A number of illustrations depicting the Liahona can be viewed with an Internet "Images" search for "Liahona."
- xi. For an illustrated map of a proposed location for the Valley of Lemuel near the Gulf of Aqaba see [www.Nephiproject.com/map\\_room.htm](http://www.Nephiproject.com/map_room.htm)
- xii. Jonathan Curci notes that a possibility for the reason that the name *Liahona* does not appear in the Book of Mormon until the book of Alma stems from the fact that the first portion (116 pages) of the translation of the Large Plates was lost. When Joseph resumed translating, he began where he left off--with the first part of the book of Mosiah. After finishing with his translation of the Large Plates, Joseph then translated the Small Plates (1 Nephi up to Mosiah). (see Royal Skousen, "Critical Methodology and the Text of the Book of Mormon," *Review of Books on the Book of Mormon*, 6/1, 1994, pp. 138-139.) (Source: Jonathan Curci, "Liahona: 'The Direction of the Lord': An Etymological Explanation," in *Journal of Book of Mormon Studies*, Provo, Utah: Maxwell Institute, vol. 16, issue 2, 2007, pp. 60-67, note 5) If such was the case, then it seems to imply that while it is apparent that the name "Liahona" was not included in the Small Plates, the first portion of the Large Plates (116 lost pages) DID contain the name "Liahona."
- xiii. For an illustrated map of a proposed location for Bountiful see [www.Nephiproject.com/map\\_room.htm](http://www.Nephiproject.com/map_room.htm)
- xiv. "An Interview With John L. Sorenson," *Journal of Book of Mormon Studies*, vol. 11, issue 1, (80-85), Provo, Utah: Maxwell Institute, 2002, p. 85.
- xv. For some key pioneering studies, see Hugh Nibley, Ph.D, *Lehi in the Desert and The World of the Jaredites*, Salt Lake City: Bookcraft, 1952; Lynn and Hope Hilton, *In Search of Lehi's Trail*, SLC: Deseret Book, 1976; George Potter and Richard Wellington, *Lehi in the Wilderness*, Springville, UT: Cedar Fort, 2003.
- xvi. See the discussion in Chapters 4 & 6.

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xvii. See George Potter and Richard Wellington, *Lehi in the Wilderness*, Springville, UT: Cedar Fort, 2003. For an illustrated map depicting Potter & Wellington's proposed location for Bountiful see [www.Nephiproject.com/map\\_room.htm](http://www.Nephiproject.com/map_room.htm)

xviii. It is interesting to note here that Nephi's situation might be compared in some ways to that of the brother of Jared. The brother of Jared planned and implemented his solution on how he was going to get across the sea by first gathering special stones. Only after this did the Lord do his part (Ether 2:22---3:6). In Nephi's situation, he was given a vision of the promised land across the sea. He could have planned a solution. One might ask, did part of that solution involve a magnetic compass? And if it did, what was Nephi's part in regards to this instrument before the Lord did His part?

xix. It is worthy of note, however, that in the verse just preceding the discovery of the Liahona, Nephi records that, "it came to pass that the voice of the Lord spake unto my father by night, and commanded him that on the morrow he should take his journey into the wilderness" (1 Ne 16:9). Whether the Lord communicated any details concerning the Liahona is not specified in the record. Nephi also notes that Lehi was "astonished" upon finding the Liahona at his tent door (1 Ne 16:10). Yet Nephi does not detail the reasons why he was astonished.

xx. "This is the principle in action. If you want the blessing, don't just kneel down and pray about it. Prepare yourselves in every conceivable way you can in order to make yourselves worthy to receive the blessing you seek. . . . When we are situated that we cannot get anything to help ourselves, then we may call upon the Lord and His servants who can do all. But it is our duty to do what we can within our own power." (Harold B. Lee) quoted in *Stand ye in Holy Places*, pp. 244-45) (<http://www.gospeldoctrine.com/Ether2.htm>)

xxi. Another example is found in the book of Ether. Moroni comments on Ether's knowledge of Joseph (the birthright son of the house of Israel) who was sold by his brothers and taken into Egypt, only to rise to prominence and save his whole family from starvation and death by bringing them to him. This salvation of the lineage of Joseph (and of Israel) is then compared with Lehi and Nephi's deliverance from the destruction of Jerusalem by journeying to the new world promised land. He writes:

For as Joseph brought his father down into the land of Egypt, even so he died there; wherefore, the Lord brought a remnant of the seed of Joseph out of the land of Jerusalem, that he might be merciful unto the seed of Joseph that they should perish not, even as he was merciful unto the father of Joseph that he should perish not. (Ether 13:7)

Here once again, while Lehi and Nephi made great personal efforts to save their family from destruction, it is the Lord that is credited with the overall shaping of these historical matters in the same manner as the Lord is credited with previously shaping history by bringing Joseph and his father to Egypt in order to preserve the lineage.

xxii. In 1909 B. H. Roberts focused attention on the idea that radioactive materials can produce luminescence, noting that both radium and polonium glow in the dark. (see B. H. Roberts, in *New Witness for God*, 3 vols., SLC: Deseret News, vol. 3, pp. 547-549)

In 1927 Janne M. Sjordahl also drew attention to radioactive experiments that produced light emission. He wrote that it was not "unreasonable to suppose that God could make the stones in the [Jaredite] barges luminous." He also was the first LDS person to discuss the Jewish tradition that Noah's ark was lighted by glowing stones. He writes:

*Shine Forth in Darkness*

Touch theses stones, O Lord, with thy finger, and prepare them that they may shine forth in darkness--Ether 3:4; 6:3

Noah, it will be remembered, was according to the English Bible translation, commanded to make a "window" to the ark. But it is pretty well agreed that the translation of the word rendered "window" is not good. The word means literally a shining object, and rabbinical tradition has it



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that the shining object was really a stone which the Patriarch had found in the river Pison and which was made luminous. (Footnote\* See Dr. Clark's Commentary) If this tradition is based on fact, the Brother of Jared must have known it, and that would account for his prayer and the miraculous answer that he obtained.

That precious stones can be made to shine seems to have been demonstrated by scientific experiments. In June, 1920, Dr. T. Coke Squance, of Sunderland, England, was reported to have succeeded in changing a sapphire of faint pink hue into a beautiful ruby, by means of the action of radium. "During the process," the report said, "the lustre was increased to such an extent that the stone had almost the brilliance of a diamond." . . . It seems, then, that the Brother of Jared, when praying the Lord to touch the stones and make them luminant, was in possession, by some means, of a knowledge that scientists of today are just beginning to dip into.

A scientific invention was announced in Philadelphia on Oct. 20, 1926, by Dr. W. D. Coolidge before the Franklin institute. It consisted of a new cathode ray tube. According to the accounts, cathode rays in a darkened room became visible as a purple glow, and a crystal of calcite placed in these rays became glowing, as if red hot, although it was perfectly cold, and continued to glow for some time. Granite also became luminous. (Footnote\*\* *Juvenile Instructor*, Dec., 1926, p. 691) (Janne M. Sjodahl, *An Introduction to the Study of the Book of Mormon*, Salt Lake City: Deseret News Press, 1927, pp. 248-249.)

Note\* Sjodahl refers the reader to Dr. Clarke's Commentary. In 1810 Adam Clarke published his Bible Commentary. In his commentary on Genesis Chapter 6, verse 16: "A window shalt thou make," Adam Clarke writes the following:

What this was cannot be absolutely ascertained. The original word *tsohar* signifies *clear* or *bright*; the Septuagint translate it by ( ), "collecting, thou shalt make the ark," which plainly shows they did not understand the word as signifying any kind of *window* or *light*. Symmacus translates it ( ), *a transparency*; and Aquila, ( ), *the noon*. Jonathan ben Uzziel supposes that it was a precious luminous stone which Noah, by Divine command, brought from the river *Pison*. It is probably a word which should be taken in a collective sense, signifying *apertures for air and light*.

In the 1956-1957 *Improvement Era* there was a series of articles by Hugh Nibley under the title "There Were Jaredites." One section dealt with "Shining Stones" (pp. 630-632, 672-675). Also in 1957 *An Approach to the Book of Mormon* was published by the Council of the Twelve Apostles for use in Melchizedek Priesthood quorums of the Church. This book also contained a section on "The Luminous Stones" (pp. 295-297). This material was later revised and expanded into another article, "Strange Ships and Shining Stones" and appeared in the 1959 book, *A Book of Mormon Treasury*. On page 144 of that book we find the following:

But who gave the brother of Jared the idea about the stones in the first place? It was not the Lord, who left him entirely on his own; and yet the man went right to work as if he knew exactly what he was doing. Who put him on to it? The answer is indicated in the fact that he was following the pattern of Noah's ark, for in the oldest records of the human race the ark seems to have been illuminated by just such shining stones. We have said that if the story of the luminous stones was lifted from any ancient source, that source was not the Talmud (with which the Book of Mormon account has only a distant relationship) but a much older and fuller tradition, with which the Ether story displays much closer affinities. The only trouble here is that these older and fuller traditions were entirely unknown to the world in the time of Joseph Smith, having been brought to light only in the last generation.

In a 1963 *Ensign* article, Spencer W Kimball speculated that perhaps the Jaredite stones were illuminated "with radium or some other substance not yet discovered by our scientists." (*Ensign*, April 1963, pp. 63-64)

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In Nibley's 1967 publication, *Since Cumorah* (Salt Lake City: Deseret Book) the shining stones were briefly discussed on page 239.

Nibley's works were edited and reprinted by FARMS during the 1980s.

In a July 1992 FARMS *Insights* article, "New Light on the Shining Stones of the Jaredites," based on research by Nicholas Read, Jae R. Balif, John W. Welch, Bill Evenson, Kathleen Reynolds, and Matt Roper, it was noted that "By touching the stones, the Lord somehow changed them, causing them to emit a light bright enough to illuminate the inside of the barges." Then the author writes:

Sandia national Laboratories in New Mexico have recently developed radioluminescent lights that invite some interesting comparisons with the Jaredite stones. These lights are intended to "serve needs for lighting where no electricity is readily available" (SNL News Release, p. 1). Their life expectancy is about 20 years and they are described as being "bright" and very "intense." The radioluminescent lights are made from a highly porous silica matrix--{aerogel"-- in which a phosphor such as zinc sulfide is dispersed. . . . Radioluminescent light is consistent with and supplies an intriguing parallel matching the requirements of the Jaredite stones: they are small, long-lasting, and physically harmless. It is possible that the Jaredite stones were created in a similar fashion, according to existing physical laws.

In 1997 an article entitled "Glowing Stones in Ancient and Medieval Lore" by John A. Tvedtnes appeared in the *Journal of Book of Mormon Studies* (Vol. 6 No. 2, pp. 99-123) in which he reviewed ancient and medieval literature containing reports of glowing stones. According to Tvedtnes, his survey demonstrates "that the marvelous nature of such stones was widespread in earlier times and that traditions about glowing stones are known from Jewish and other Near Eastern sources."

John concludes with the following:

. . . While some natural explanations might be presented, I can only say that the Book of Mormon account attributes their power to divine influence. This is the same explanation given in many of the early texts we have surveyed. . . .

In 1999 John A. Tvedtnes wrote a follow-up article in FARMS *Insights* in which he reviewed statements concerning the luminescent stones and called attention to stones "composed of phosphorescent minerals . . . also known to glow." He wrote that "Barite will shine for some time in the dark after being exposed to sunlight."

xxiii. For a discussion on this point, I have prepared another paper entitled, "The Relationship of the Interpreters to the 24 Plates of Ether and the Book of Ether." But that paper remains unpublished.

xxiv. While there are no other biblical (Jewish) accounts of something similar to the Liahona, there are some interesting comments in the origin-stories of other cultures (cultures that might have connections with the Jews) that DO speak of something similar. I will address this subject later on in my book.

xxv. In reviewing the literature I have failed to find anyone previous to this that has proposed this idea. According to the text, Laman proposed that Nephi "worketh many things by his cunning arts" (1 Nephi 16:38) perhaps implying that Nephi made the Liahona, but Laman did not allow Nephi any help from the Lord). In order to give further perspective to this proposal I will note that there have been a couple of other writers in recent times that have possibly flirted with such an idea before dismissing it in favor of a total divine nature for the Liahona. In a 1984 FARMS paper entitled "Was Lehi a Caravaneer?" by John A. Tvedtnes, he argues against the idea that Lehi was a caravaneer. Instead he proposes that Lehi and Nephi were expert metalworkers. On pages 13-14 he writes:

I believe that there is evidence to show that Lehi and his family were craftsmen and artisans - probably metalworkers. (In the Near East, sons typically enter into the same occupation as their fathers. Hence, the occupation pursued by Nephi can be reasonably expected to be that of his father as well.) For example, we have Nephi's keen interest in the sword of Laban when he

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encounters him drunk on the streets in 1 Nephi 4:9. Nephi's steel bow (1 Nephi 16:18) might also be an indication of his occupation. (His inability to repair the bow in the desert could be explained by either the lack of iron ore in the region or by the fact that the Lord had forbidden them to make fires.) . . .

When the Lord tells Nephi, in the land of Bountiful, to build a ship, he has to give detailed instructions on how to do it. (1 Ne 17:8; 18:1-4) But there is no record that Nephi had to ask how to prepare the metal tools with which he built the ship. Rather, he simply asked the Lord where he could find the "ore to molten, that I may make tools to construct the ship." He then constructed a bellows, lit a fire and fabricated the tools. (1 Ne 17:8-11, 16). . .

Further evidence for Nephi's metal-working skills came after the group's arrival in the New World. It was he who prepared the plates of ore from which the Book of Mormon ultimately developed (1 Ne 19:1), smelting the ore and forming the plates themselves. He also manufactured "many swords" based on the pattern of the weapon he had taken from Laban in Jerusalem (2 Ne 5:14). But the full range of his talents is explained in the verses which follow this entry: "And I did teach my people to build buildings, and to work in all manner of wood, and of iron, and of copper, and of brass, and of steel, and of gold, and of silver, and of precious ores, which were in great abundance. . . . (2 Ne 5:15-17)

Tvedtnes then writes the following:

Jack Welch, after reading the first draft of this paper, suggested in private conversations that the skepticism of Laman and Lemuel upon the discovery of the Liahona or compass outside Lehi's tent one morning (1 Ne 16:10) may be yet another indication of Nephi's metalworking skills. Lehi's elder sons seem not to be impressed by this marvelous instrument. Welch has proposed that this might be because they thought the brass ball-like device had been manufactured by their brother in an attempt to convince them that they were doing the right thing by following their father into the wilderness (Welch notes that 1 Ne 16:38 refers to Nephi's using "cunning crafts").

Thus Welch proposed that Nephi had sufficient metalworking skills that Laman & Lemuel might have attributed the manufacture of the Liahona to him. But rather than even flirting with the idea that Nephi might indeed have been the source of the Liahona in any way, Tvedtnes quickly adds: "If this suggestion is correct, it would explain why Alma was so insistent in his declaration that no human hand could have fabricated the Liahona (Alma 37:38-39)." But contrary to Tvedtnes's assertion, Alma didn't exactly use those words ("no human hand . . ."), he simply said, "there cannot any man work after the manner of so curious a workmanship," which leaves the door open for interpretation. I understand Alma's words to mean that while the Lord's help was necessary in the construction and function of the Liahona, the extent of that help is left undefined.

In a FARMS Update based on research by Robert F. Smith, March 1984, we also find the following ideas that could have linked the manufacture of the Liahona with Nephi, but once again these ideas were quickly dispelled in favor of a lesser assumption that Nephi might have just been familiar with the principle of magnetism rather than capable of constructing a compass. This article was reprinted in *Reexploring the Book of Mormon: The F.A.R.M.S. Updates*, edited by John W. Welch, Salt Lake City: Deseret Book Company and Provo: Foundation for Ancient Research and Mormon Studies, 1992, pp. 44-46. I quote:

While the Book of Mormon does not tell us whether the Liahona functioned partly on geomagnetic principles, Nephi did say that it contained two spindles, one of which functioned as a directional pointer, and that the body was made of "fine brass" (1 Nephi 16:10, 28). Brass is an excellent noncorroding and nonmagnetic case for a compass. Those who are familiar with modern compasses might naturally ask whether the Liahona worked on a similar principle, with a magnetic function for one spindle, and a possible azimuth setting [the angle created by plotting from due "north" the point on the eastward horizon where a planet or star arises] for the other. Perhaps part of Laman's skepticism was based on some familiarity with just such a technology.

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Once again, just as in the Tvedtnes article, the idea is raised that Laman & Lemuel might have had good reasons to suggest that Nephi, by his "cunning artifice," had constructed the Liahona. And once again it is quickly put down. I quote:

But what sort of "cunning artifice" did Laman imagine Nephi employed in order to transmit divine messages to the surface of the ball-shaped Liahona (1 Nephi 16:26-29)? Moreover, as Laman and Lemuel later learned to their dismay, the Liahona functioned or failed based directly upon the faith, heed, and diligence given to it and to the Lord (1 Nephi 16:28-29); Mosiah 1:16; Alma 37:40-41, 44-45), all of which is very reminiscent of the mode in which the Nephite interpreters-directors-Urim and Thummim functioned best (Mosiah 8:13; Alma 37:23; D&C 9:7-9; 10:1-5; Joseph Smith-History 1:35).

Although we do not know specifically what Laman had in mind, it is worth noting that the function of magnetic hematite was well understood in both the Old and New Worlds before Lehi left Jerusalem. Magnetite, or *lodestone*, is, of course, naturally magnetic iron . . .

Whatever the nature of the Liahona, it is intriguing to note that certain properties of compasses might have been familiar to those who were blessed with its guiding functions, and that those who were skeptical of Nephi and the Liahona might have logically turned to those characteristics in seeking to find a plausible rationalization.

In the above quote, Robert F. Smith focuses exclusively on the principle of magnetism as the determining factor in Laman's linking the Liahona with Nephi. By combining Nephi's knowledge of magnetism (as proposed by Smith) with his knowledge of metallurgy (as proposed by Tvedtnes and Welch above) the reasons for Laman's linking the Liahona with Nephi increase significantly.

xxvi. John A. Tvedtnes, "Was Lehi a Caravaneer?", FARMS working paper, 1984.

xxvii. The reader has to go no further than Nephi's mention of two fabricated items: the "plates of brass" (1 Nephi 3: 3, 12, 24; 4:16, 24, 38; 5:10, 14, 18, 19; 13:23) and the "rod of iron" (1 Nephi 8:19, 20, 24, 30; 11:25; 15:23). In the Bible we find one of the sons of Lamech (fifth in descent from Cain) was "Tubalcain, an instructor of every artificer in brass and iron" (Genesis 4:22).

xxviii. For Nephi talking with the Lord, see 1 Nephi 2:16; see also chapters 11-14. For Nephi being ministered to by an angel, see 1 Nephi 3:29.

xxix. 1 Nephi:10:1: "And now I, Nephi, proceed to give an account upon these plates of my proceedings, and my reign and ministry; wherefore, to proceed with mine account, I must speak somewhat of the things of my father, and also of my brethren." Note also that at a later time the Lord refers to Nephi's party not as his "family" or "families," but as "thy people" (1 Nephi 17:8)

xxx. A number of interesting articles have been written on the subject. To begin with, I have presented the following about Nephi's obtaining the Plates of Brass:

Nephi says that after he had smitten off Laban's head "with his own sword, [he] took the garments of Laban and put them upon [his] own body; yea, even every whit; and [he] did gird on [Laban's] armor about [his] loins" (1 Nephi 4:19). More than the practical aspect of this narrative, one should appreciate the covenant symbolism here. Raymond Treat notes in his book, *The Miracle of the Scarlet Thread*, that Richard Booker outlined the steps ancient Hebrews typically followed in making a covenant. They exchanged robes and belts, a man's robe was symbolic of all his material possessions. The ancient belts were weapons belts. Therefore, the message of giving one's belt was "all the power I have I now give to you. If necessary, I will defend you to the death." (Raymond C. Treat, "Understanding Our Covenant," in *Recent Book of Mormon Developments*, Vol. 2, pp. 34-35)

So the story of what happened to Laban might be representing the symbolic loss of covenant blessings through unrighteousness, and the bestowing of those blessings upon Nephi, who kept the covenant. Laban, as the record attests, was the covenant caretaker of the record of Joseph. Nephi would thus become the new covenant caretaker of the record of Joseph. (adapted from Alan C. Miner, *Step by Step through the Book of Mormon*, vol. 1, 1 Nephi 5:19)

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Concerning the sword of Laban, Brett L. Holbrook has written a revealing article which he summarizes in an abstract as follows:

Swords have often been seen as symbols of divine authority and kingship. Numerous examples from the mythology, literature, and history of the world attest to distinct patterns. The sword of Laban from the Book of Mormon fits these patterns and can be compared to the sword of Goliath. The sword of Laban can also be traced as part of the royal regalia that gives authority throughout Nephite history, and later as it appears in the Restoration. ("The Sword of Laban as a Symbol of Divine Authority and Kingship," in *Journal of Book of Mormon Studies*, vol. 2 Issue 1, 1993, pp. 39-72)

Daniel N. Rolph explains that though the Book of Mormon reveals that the sword of Laban (1 Nephi 4:9) served as an ancestral and hereditary sword of the ancient Nephite prophets, evidence suggests that the weapon may have been the birthright sword of biblical tradition, a sacred heirloom that may have been wielded by the patriarchs up until the time of Joseph of Egypt. Laban, being a descendant of Joseph, inherited the birthright sword and the plates of brass, both treasures eventually coming into the possession of Nephi, who was both a prophet and a descendant of Joseph, . . . Was it accidental, or an act of Providence, that Nephi brought the sword as well as the plates out of Jerusalem to the land of promise? It is interesting to learn that, according to Jewish tradition, the antediluvian patriarch Methuselah slew myriads of demons with a "wonderful sword," a weapon Abraham is also said to have inherited, by which he "conquered the kings . . . Esau thus received it, as heirloom, from Isaac, since he was the first-born. This sword passed to Jacob when he purchased the birth-right." ("Prophets, Kings, and Swords: The Sword of Laban and Its Possible Pre-Laban Origin," in *Journal of Book of Mormon Studies*, Spring 1993, pp. 73,75-76)

Concerning the Liahona (or "ball") Gordon Thomasson writes the following:

The Liahona deserves special attention. The Liahona was a "ball or director, which led our fathers through the wilderness, which was prepared by the hand of the Lord that thereby they might be led, every one according to the heed and diligence which they gave unto him" (Mosiah 1:16). The Liahona was, in fact, a royal treasure, passed from father to son by Nephi's descendants. Few details in the Book of Mormon have been ridiculed more than the Liahona, and yet few more accurately reflect what one might find in an authentic ancient record. . . . Royal treasure like the Liahona were once well known, such as the one pictured in the Emperor Charles V's left hand (fig. 1). It is an *orbis terrarum*, *Reichsapfel*, or orb. . . It is a symbol of earthly rule and heavenly power, and its use in royal and religious iconography is an implicit claim to worldly dominion, symbolizing its possessor's power over this earth. It represents an assertion of "holding the world in the palm of one's hand" (Gordon C. Thomasson, "Mosiah: The Complex Symbolism and Symbolic Complex of Kingship in the Book of Mormon," in *Journal of Book of Mormon Studies*, vol. 2 Issue 1, 1993, p. 28)

xxxi. For example, in 1888 George Reynolds wrote the following:

Some people have confused this ball, because it is called a compass, with the mariner's compass, that sailors use at sea to direct the course of their ships. But there is a great difference between the two. The Liahona pointed the way that Lehi's company should travel, while the needle in the mariner's compass points to the north. The one showed the way Lehi *should* go, the other informs the traveler which way he is going. The one was specially prepared by the Lord for Lehi and his companions, and was used through faith only; the other can be used by all men, whether believers in the true God, pagans or infidels. At times, also, writing would miraculously appear on the Liahona, giving directions or reproving for sin, as the company most needed. (*The Story of the Book of Mormon*, Salt Lake City: Jos. Hyrum Parry, 1888, p. 35.)

In 1909 B. H. Roberts would write:



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This curious instrument [the Liahona] in an incidental way is called a "compass" in several passages. Whereupon, our opponents seek to bring the Book of Mormon in conflict with supposed historical facts by insisting that the Book of Mormon speaks of the people being in possession of "a mariner's compass, long before the invention of such an instrument!" ("Story of the Mormons," Linn, p. 97)

This writer [Linn] attributes the possession of the "compass" to the Jaredites. Whether it is the slip of a careless writer or an effort on his part to make the matter of the "compass" in the Book of Mormon more ancient, is a question for him or his friends to explain. Many other writers in their anxiety to find anachronisms in the Book of Mormon refer to this "compass." Lamb is positively dishonest in the matter, since he assumes the existence of two instruments. One he calls the "Director," and applies to it the description given above in the text, and the other he calls the "Compass," though clearly this latter word is used in an incidental way in describing the "Director." This is the only way he could create the longed for anachronism and hence he adopted it. This may secure his fame for ingenuity, but what of his honesty? (See "The Golden Bible" Chapter III., Subdivisions "C" and "D")

The director of the Nephites makes no pretensions to being a "Mariner's compass" of man's invention, and surely the description given above, supplemented as it is by a fuller description in the Book of Alma, where it is called "Liahona," must dispel all thought of this instrument being considered as an ordinary compass, such as is invented by men for navigating purposes; and which, as everybody knows, has but this one quality, namely, its needle constantly points northward because of the magnetic pole force, and mariners knowing one direction may ascertain others. The silliness of argument, which even supposedly grave and reverend historians and essayists descend to on such a point, is illustrated by an alleged incident with which Linn stoops to render his pages luminous, by pretending to quote the manner in which "Mormons in Utah" are supposed to explain the alleged anachronism of the "compass." He says:

The ease with which such an error could be explained is shown in an anecdote of a Utah Mormon, who, when told that the compass was not known in Bible times, responded by quoting Acts xxvii: 13, where Paul says: "And from thence we fetched a compass!"

That is, to quote the passage in full-"From thence we fetched a compass, and came to Rhegium."

This is merely the repetition of an old, silly story told against the Mormons long before they arrived in Utah, and was invented by the Rev. Henry Caswell, author of "The Prophet of the Nineteenth Century," published in 1843. It is of that order of stuff as the tales about the Prophet Joseph attempting to walk on the water, and his pretending to raise the simulated dead. (B. H. Roberts, in *New Witness for God*, 3 vols., SLC: Deseret News, vol. 3, 1909, pp. 550-551, 561)

In 1970, in reviewing a book on Mark Twain for *BYU Studies*, Richard Cracroft writes:

He [Twain] turns to the passage in 1st Nephi in which Nephi notes that the family of Lehi used an instrument called the "Liahona" in finding their directions while en route from the Old World to the New. Twain seizes on this instrument as an anachronistic "compass," noting smugly that the travelers appear to "have had the advantage of Noah," all the while ignoring the text's explanation that the so-called compass was a miraculously powered ball--not a magnetic compass--which operated commensurate to the faith of the travelers . . . (Richard H. Cracroft, "The Gentle Blasphemer: Mark Twain, Holy Scripture, and the Book of Mormon," in *BYU Studies*, vol. 11 (1970-1971), Number 1 - Autumn 1970, p. 133.)

xxxii. In a 1991 article for *FARMS Review of Books*, reviewing LDS author Arthur Kocherhans *Lehi's Isle of Promise*, James Fluegel criticized Kocherhans for even suggesting that the directions pointed out by the Liahona even resembled magnetic compass directions of not only Joseph Smith's day but also modern-day magnetic compass directions. In his book, Kocherhans had written:

The words "Red Sea" are Old Testament words and, by looking at Map 14, we can see that Lehi's compass or Liahona caused him to travel by what in 1828 still was called nearly "south-

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southeast" and nearly "east". The compass direction co-ordinates of Joseph Smith's time and of our present day correspond to physical antiquity.

For our purpose in this work, we will rely upon the accuracy of these scriptures and Joseph Smith's translation of the ancient characters. All further direction names such as east and west are consistent within the Book of Mormon and with 1828 compass co-ordinates and direction names.

Nephi had Lehi's compass in crossing the waters to the promised land. It continued to be a recognized instrument of navigation among the Nephites (Alma 37:38, 43) and an instrument called a compass has continued to be used even down to our day for directional purposes. (*Lehi's Isle of Promise*, Placentia, California: Kobo Enterprises, 1989, pp. 97, 99)

James Fluegel wrote the following in his review:

Here is an example of how he [Kocherhans] insists that the language of the Joseph Smith translation forces Book of Mormon vocabulary to correspond with modern usage. Various references to the 1828 edition of Noah Webster's *Dictionary* are supposed to form a scholarly link between the translation and conditions in the outside world. But in this case, at least, there is no implication in the text of the Book of Mormon itself that the Liahona was a magnetic compass. Rather, it is clearly described as a revelatory device dependent not upon magnetism but upon obedience to the Lord (1 Nephi 18:12). The Book of Mormon makes this explicit, but because the translation also uses "compass" and because Kocherhans interprets that only to be a magnetic compass, he has carefully thought himself into anachronism. (Book Review: Arthur J. Kocherhans, *Lehi's Isle of Promise: A Scriptural Account with Word Definitions and a Commentary*, in *FARMS Review of Books*, vol. 3, 1991, pp. 97-99)

Interestingly, Fluegel didn't bother to explain how coincidental it was that a 16-part compass-like direction, "south-southeast," could appear in the Book of Mormon text and exactly correspond with the direction of the Frankincense Trail which ran parallel to the south-southeast oriented coast of the Red Sea. Whatever the original word used by Nephi, it ultimately came through the mind of Joseph Smith and out of his mouth in words of his era when possible. The question once again that Fluegel failed to address was why such a compass-specific term as "south-southeast" was used at all by Nephi and by Joseph Smith in translating. Fluegel simply mandated that "there is no implication in the text of the Book of Mormon itself that the Liahona was a magnetic compass."

xxxiii. In reviewing the literature, as far as I have been able to find, the earliest LDS article that speaks positively for the idea that the Liahona was magnetic comes from the 1883 book by George Q. Cannon. (George Q. Cannon, *The Life of Nephi, the Son of Lehi*. Salt Lake City, Utah: Published by the Juvenile Instructor Office, 1883, p. 39) In this book Elder Cannon made an interesting footnote in reference to the Liahona. Although Elder Cannon first states that the Liahona "differed in several respects from what are known as compasses," he notes the following in connection with the term "compass":

In this connection it may be of interest to say a few words about what is known as the mariner's compass. It is claimed that the Chinese used the compass at a very early period; and it is thought probably that Marco Polo, the traveler, introduced it to Europe from China, about 1290 A.D., twelve years before Gioja, of Amalfi, its supposed inventor.

*Elder Cannon follows this part of his footnote by making some comments on the 28th chapter of the Book of Job. But before I get into his commentary let me lay some groundwork. According to what I read, the authorship and date of the Book of Job is unknown, although from the clues in the text it is estimated to have been written sometime between the time of Solomon (1000 B.C.) and 250 B.C. (with dates around 600 B.C. being most popular). [ \*1 ] In chapter 28 Job compares the rich metals and gems (stones) of the earth to the value of the wisdom of God. In verses 12-24 (KJV) Job writes:*

12. *But where shall wisdom be found? and where is the place of understanding?*
13. *Man knoweth not the price thereof; neither is it found in the land of the living.*
14. *The depth saith, It is not in me: and the sea saith, It is not with me. . . .*
16. *It cannot be valued with the gold of Ophir; . . .*

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18. No mention shall be made of **coral**, or of **pearls**: for the price of wisdom is above **rubies**.  
 19. The **topaz** of Ethiopia shall not equal it, neither shall it be valued with pure gold.  
 20. Whence then cometh wisdom? and where is the place of understanding?  
 23. God understandeth the way thereof, and he knoweth the place thereof.  
 24. For he looketh to the ends of the earth, and seeth under the whole heaven.

By consulting various Bible commentaries, I found that whether the word translated here in scripture is "coral," or "pearls" or "rubies" or "topaz," the true meaning is not only a matter of conjecture, but there is a possibility due to the poetic nature of this passage, that they might be connected with different items of value associated with travels across the sea, or "depth," (v. 14). I might note also that the "pure gold," (v. 19) is paralleled (or equated) with the "gold of Ophir," (v. 16) which is the mysterious location that took Solomon's ships three years to visit and return from with their bounty of gold and other gems. ( 2 Chr. 8:18; 9:21)

Now having said this, let me get back to what George Q. Cannon had to say in his footnote about the "compass" which Lehi and Nephi received at the valley of Lemuel near the Red Sea. He writes:

"Some people contend that the compass is no new invention; but that the ancients were acquainted with it. They say that it was impossible for Solomon to have sent ships to Ophir, Tarshish and Parvaim, without this useful instrument. They insist that it was impossible for the ancients to be acquainted with the attractive virtue of the magnet, and to be ignorant of its polarity; nay, they affirm that this property of the magnet is plainly mentioned in the book of Job, where the loadstone [a naturally magnetic brownish stone discolored by the presence of an iron oxide] is mentioned by the name of *topaz*, or *the stone that turns itself*." (Ency. Brit.)

\*Note 1: "Job, Book of," in *The Illustrated Bible Dictionary*, Vol. 2, Wheaton, Ill: Tyndale House Publishers, 1980, p. 791.

Note\* Interestingly, in Adam Clarke's *Bible Commentary* (1810 --->) for Job 18:18 ("for the price of wisdom is above **rubies**." ) we find the following:

some learned men are of the opinion that the magnet or loadstone is meant, and it is thus called because of the remarkable property it has of turning north and south. And this notion is rendered the more likely, because it agrees with another word in this verse, expressive of a different property of the magnet, viz., its attractive influence: for the Hebrew words *meshech chochmah mippeninim*, which we render, *The price of wisdom is above rubies*, is literally, *The ATTRACTION of wisdom is beyond the peninim, the loadstone; for all the gold, silver, and precious stones, have strong influence on the human heart, attracting all its passions strongly; yet the attraction of wisdom--that which insures a man's happiness in both worlds--is more powerful and influential, when understood, than all of these, and even than the loadstone, for that can only attract iron; but, through desire of the other, a man, having separated himself from all those earthly entanglements, seeketh and intermeddleth with ALL WISDOM. The attractive property of the loadstone must have been observed from its first discovery; and there is every reason to believe that the magnet and its virtues were known in the East long before they were discovered in Europe.([http://jcs.org/StudyCenter/Adam\\_Clarke\\_Commentary/clarkejob . . .](http://jcs.org/StudyCenter/Adam_Clarke_Commentary/clarkejob...) )*

Now if wisdom is valued above the price of loadstone, and loadstone is associated with different items of value from travels across the sea, or "depth," (v. 14), then we might take this association one step further and say that loadstone was being used to enable travels across the sea, and thus we might have an allusion here to the existence and use of a primitive compass.

The next LDS comment comes from a 1909 book by B. H. Roberts. He takes a somewhat more cautious position, although still maintaining the possible antiquity of the magnetic compass. One might ask, why? It seems that since the time of Cannon's writings, a number of anti-Mormon books had been published, claiming that the Liahona was magnetic (implying a modern-day origin of the Book of Mormon from Joseph Smith's mind). In response, at the end of a whole page of comment by B. H. Roberts directed to prove that the Liahona was *NOT* a magnetic compass as anti-Mormon writers had charged, Roberts ends with the following:

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The antiquity of the compass really, of course, is of no importance in this discussion, since it is not claimed that "Liahona" is a compass, but an entirely different instrument, "and the Lord prepared it;" still, in passing, it may be well to point out that those who have attempted to make capital out of this supposed anachronism have not stated the whole truth concerning the compass.

"The directive power of the magnet," says a respectable authority "seems to have been unknown in Europe till late in the 12th century. It appears, however, on very good authority, that it was known in China, and throughout the east generally, at a very remote period. The Chinese annals indeed assign its discovery to the year 2634 B.C., when, they say, an instrument for indicating the sun was constructed by the emperor Hou-angti. At first, they would appear to have used it exclusively for guidance in traveling by land. ("Universal Knowledge," Chambers, p. 203) ("The marvels of Liahona," in *New Witnesses for God*, 3 vols., Salt Lake City: Deseret News, Vol. 3, 1909, pp. 550-552)

In March of 1984 the FARMS organization sent out a 1-page Update entitled "Lodestone and the Liahona" (author not named) to those financially contributing members belonging to their Cornerstone Club. Each month the Update was sent out to all major contributors and active volunteers. They were "state-of-the-art short studies" reporting the organization's most recent discoveries and works in progress. At the end of 1984 these articles were assembled into one report for distribution. In this article we find the following:

While the Book of Mormon does not tell us whether the Liahona functioned partly on geomagnetic principles, Nephi did say that it contained two spindles, one of which functioned as a directional pointer, and that the body was made of "fine brass" (1 Nephi 16:10, 28). Brass is an excellent noncorroding and nonmagnetic case for a compass. Those who are familiar with modern compasses might naturally ask whether the Liahona worked on a similar principle, with a magnetic function for one spindle, and a possible azimuth setting for the other. Perhaps part of Laman's skepticism was based on some familiarity with just such a technology. . . .

Although we do not know specifically what Laman had in mind, it is worth noting that the function of magnetic hematite was well understood in both the Old and New Worlds before Lehi left Jerusalem. Magnetite, or *lodestone*, is, of course, naturally magnetic iron ( $Fe_3O_4$ ), and the word *magnetite* comes from the name of a place in which it was mined in Asia Minor by at least the seventh century B.C., namely Magnesia. (Thales of Miletus is the first known to have mentioned its strange properties, ca. 600 B.C.). Professor Michael Coe of Yale University, a top authority on ancient Mesoamerica, has suggested that the Olmecs of Veracruz, Mexico, were using magnetite compasses already in the second millennium B.C. This is based on Coe's discovery during excavations at San Lorenzo-Tenochtitlan of a magnetite "pointer" (M-160) which appeared to have been "machined," and which Coe placed on a cork mat in a bowl of water in a successful test of its function as a true floater-compass. (J. B. Carlson, *Science* 189: 753-760; . . . )

*Note\* As noted above, Coe's 1967 discovery was the basis of a 1975 article in the Science journal in which John B. Carlson reported on his analysis of this Olmec artifact (M-160). Carlson writes:*

*According to Coe's analysis (n3) the fill in which M-160 was unearthed contained no material later than the San Lorenzo A and B Phases, which have been well dated by radiocarbon methods at 1400 to 1000 B.C. (n4, 5) . . . The analysis of M-160 indicates that the Olmec may have discovered and used the geomagnetic lodestone compass earlier than 1000 B.C..*

*On page 757 of this article, Carlson presents photographs of M-160 along with diagrams representing a floater experiment. After detailing his experiments, Carlson writes the following:*

*Considering the unique morphology (purposefully shaped polished bar with a groove) and composition (magnetic mineral with magnetic moment vector in the floating plane) of M-160, and acknowledging that the Olmec were a sophisticated people who possessed advanced knowledge and skill in working iron ore minerals, I would suggest for consideration that the Early Formative artifact M-160 was probably manufactured and used as what I have called a zeroth-order compass, if not a first-order compass. . . . That M-160 could be used today as a*

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*geomagnetically directed pointer is undeniable. The original whole bar may indeed have pointed close to magnetic north-south. The groove functions well as a sighting mark . . .*

*As a matter of reference, the Olmec culture to which this magnetic bar (M-160) belonged had been linked by some Book of Mormon geography theorists with the Jaredite culture (and later the Mulekite culture).*

In 1992 the above Update "based on research by Robert F. Smith, March 1984" would be reprinted as "Lodestone and the Liahona," in *Reexploring the Book of Mormon: The F.A.R.M.S. Updates*, edited by John W. Welch (Salt Lake City: Deseret Book Company and Provo: Foundation for Ancient Research and Mormon Studies, 1992, pp. 44-46). Welch also cites the following: See J. B. Carlson, "Lodestone Compass: Chinese or Olmec Primacy?" *Science* 189 (September 5, 1975): 753-60; R. H. Fuson, "The Orientation of Mayan Ceremonial Centers," *Annals of the Association of American Geographers* 59 (September 1969): 508-10; E. C. Baity, "Archaeoastronomy and Ethnoastronomy So Far," *Current Anthropology* 14 (October 1973): 443.

In 1993 an article written by Deanne Matheny appeared in the publication *New Approaches to the Book of Mormon: Explorations in Critical Methodology* in which she criticized John Sorenson's writings on Book of Mormon culture and geography. One aspect had to do with Sorenson's skewed directional system for Book of Mormon geography. Matheny argued for cardinal directions. Included among her reasonings was the fact that, "Additionally Lehi's party had the Liahona, which is called a "compass" a number of times in the Book of Mormon . . ." (*New Approaches . . .*, SLC: Signature Books, 1993, p. 278) However, In his 1994 rebuttal to Matheny, John Sorenson dismissed the idea of a magnetic compass. (Review of Deanne G. Matheny, "Does the Shoe Fit? a Critique of the Limited Tehuantepec Geography," in *FARMS Review of Books*, vol. 6, no. 1 (1994), p. 310.)

In 1993, B. Keith Christensen would circulate his "Appendices to *The Unknown Witness*," a 170-page addition to his 1992 manuscript edition, *The Unknown Witness: Jerusalem, Geology, and the Origin of the Book of Mormon*, which set forth his theory on Book of Mormon geography. On pages 46-53 of this "Appendices" we find some sections on the Liahona (Book of Mormon "Compass"; Obtaining the Compass; Some Mormon Scholars Waffle over the Liahona; Capabilities of Liahona/Compass; The Liahona and the Bible; and The Isthmus of Tehuantepec and the Liahona). These sections argued for the idea that the Liahona was in part a true compass and against the skewed directions used by John Sorenson to support his theoretical narrow neck of land being the Isthmus of Tehuantepec. He proposes that there were two spindles on the Liahona, the one pointing magically to the direction in which Lehi should travel, and the other apparently pointing to magnetic north. In this way they would know in what direction they were going. Christensen does not cite any previously published LDS works in support of a magnetic Liahona, and cites only the works of Nibley and Sorenson against such an idea. On pages 46-47 Christensen writes:

By definition, a compass is a device to tell direction. The Book of Mormon compass (also called the Liahona, ball, or director) had "two spindles," or pointers. Nephi says "one pointed the way whither we should go into the wilderness." The reason for one pointer is explained, but what was the purpose for the other? I have never seen the question discussed.

We will see that the account indicates it was a compass needle, fulfilling the description that the Liahona was a compass in addition to being a "director."

In their journey in the Middle East Nephi describes their direction in precise terms. For example, it was mentioned earlier that part of their journey was in "nearly a south-southeast direction." By observing the sun, moon, and stars, the means typically used anciently for determining direction, they might have been able to locate south-southeast. But does it seem that by these means someone could precisely determine what was "nearly" south-southeast? On the other hand, if the first pointer in the Liahona pointed out the direction to go as Nephi says it did, and the other pointer or spindle was a compass needle, this second spindle could show what the direction was.



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In the Fall 1994 *Journal of Book of Mormon Studies* (Vol. 3 No. 2, pp. 1-11) there appeared an excellent article by Robert L. Bunker ("The Design of the Liahona and the Purpose of the Second Spindle") which has been discussed previously (see note 26). While the article broached the subject of the magnetic compass, no specific proposal was put forth. The focus of the article was on design not function, and the closest the author got to the principle of magnetism was in footnotes #2 and #3. In footnote #2 he writes on the description of a "spindle": "Such a spindle-shaped pointer is often encountered in magnetic compasses (cf n. 3) where some type of marking designates one end as north." But he follows that statement with the following: "The spindle in the Liahona used to designate direction would also have required differentiation between ends, either by color, texture, or shape. In note #3 Bunker comments on an analogous design to a magnetic compass and also hints at function but his ideas are not made clear. He seems to be making contrary statements regarding a magnetic Liahona. He writes: "Since the magnetic compass in Lehi's time was still many centuries from discovery, the use of the word "compass" by Joseph Smith in translation to refer to the Liahona reinforces not only the analogy of directional function with the modern compass but also of design." It is not clear to me what Bunker had in mind by saying that the word "compass" in the Book of Mormon reinforced "the analogy of directional function with the modern compass."

In a 1996 RLDS book by Glenn A. Scott, Jr. he writes:

Next morning as Lehi left his tent, he saw on the ground a brass ball of "curious [intricate] workmanship" (1 Nephi 5:11 [16:10]). . . . Nephi called it a compass (1 Nephi 5:190 [18:12] for it did serve that purpose. The magnetic compass had been invented in China long before this time. (*Voices from the Dust: New Light on an Ancient American Record*, Independence, Missouri: School of Saints, p. 77)

xxxiv. In a February, 1961 article by Hugh Nibley ("The Liahona's Cousins," in *The Improvement Era*, vol 64, num. 2, pp. 87-111), after reviewing all the scriptures which treat the Liahona, he lists the salient features which they report. He writes that one of these salient features of the Liahona was that "It was neither mechanical nor self-operating, but worked solely by the power of God. It functioned only in response to the faith, diligence, and heed of those who followed it." (p. 89) This in spite of the fact that the thrust of the article was to compare the similarity of the workings of the Liahona with the ancient divination technique of Belomancy, "the practice of shooting, tossing, shaking, or otherwise manipulating rods, darts, pointers, or other sticks, all originally derived from arrows." (p. 104) Much of this material would be reprinted in 1967 by Nibley (*Since Cumorah*, SLC: Deseret Book, pp. 283-296.)

In 1976 Daniel H. Ludlow would write: "The word *compass* as used here does not refer to the magnetic instrument of the mariner (the magnetic compass was apparently not known in the western world until about the twelfth century A.D.). (*A Companion to Your Study of the Book of Mormon*, SLC: Deseret Book, 1976, p. 116.)

In 1987 Joseph Fielding McConkie and Robert L. Millet would add their commentary: "This seeric device, later identified by Alma as the Liahona (Alma 37:38), was certainly not a compass in the conventional sense. Rather than identify magnetic north, it pointed the direction that they should travel." (*Doctrinal Commentary on the Book of Mormon*, 4 vols., SLC: Bookcraft, vol. 1, 1987, p. 124)

In 1988 John L. Sorenson would once again affirm the exclusively spiritual function of the Liahona. He writes: "A course was laid by observing one of the spindles inside the Liahona or "compass," which "pointed the way whither we should go" (1 Ne. 16:10; 18:12, 21). I see no reason at all to suppose this device was magnetic, despite the term *compass*. Rather it was faith operated." ("Transoceanic Crossings," in Monte S. Nyman and Charles D. Tate, Jr., eds., *First Nephi: The Doctrinal Foundation*, Religious Studies Center: Brigham Young University, 1988, p. 263)

In a 2002 Conference of the FAIR organization, John A. Tvedtnes of the FARMS organization delivered an address entitled, "The Mistakes of Men: Can the Scriptures be Error-Free?" in which he said the following:

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According to the Book of Mormon, Lehi used a "compass" to guide him in his travels to the New World (1 Nephi 18:12-14; Alma 37:38). Critics are wont to point out that the magnetic compass was discovered in the late middle ages in China and was unknown in the ancient Near East. Though the word "compass" in our day usually denotes a device used to determine the direction of magnetic north, it need not have that meaning in the Book of Mormon. The word "compass" may have been the closest equivalent of the original word available to Joseph Smith in the English language. Moreover, "compass" has several other meanings in English and originally meant "circle" (as in the compass used to draw circles). The word "compass" also appears a number of times in the King James Version of the Bible, usually as a verb but sometimes as a noun (Exodus 27:5; 38:4; 1 Kings 7:35; Isaiah 44:13). We should also note that the fact that the Lord had to "prepare" the device for Lehi implies that it was an instrument not known in his day. So we don't have to worry about whether it was a magnetic compass or not, on the grounds that such an instrument didn't exist at that time. The Lord surely knew the principles on which the magnetic compass works, and could have provided one for Lehi. But it's unlikely that this is what the Book of Mormon intended. ([http://www.fairlds.org/FAIR\\_Conferences/2002\\_Can\\_the\\_Scriptures\\_be\\_Error-Free.html](http://www.fairlds.org/FAIR_Conferences/2002_Can_the_Scriptures_be_Error-Free.html))

In a 2003 article entitled "Liahona," by Neal Elwood Lambert in the *Book of Mormon Reference Companion* we find the following:

*Liahona* A device miraculously provided by the Lord to Lehi and his family which gave divine directions and instructions to them for their travels to the land of promise. . . . This "ball, or director" (Alma 37:38) functioned only "according to the faith and diligence and heed" which the people gave to it (1 Ne. 16:28). (*Book of Mormon Reference Companion*, Dennis L. Largey ed., Salt Lake City: Deseret Book Company, 2003, p. 519)

In an August 17, 2004 devotional address given during Campus Education Week, Lance B. Wickman, a member of the First Quorum of the Seventy stated the following:

He [Lehi] knew something of the lifesaving qualities of a reliable compass. The Liahona guided him--its bearings not coming from a magnetic field but rather through a function of "faith and diligence and heed" (1 Nephi 16:28). ([http://speeches.byu.edu/htmlfiles/Wickman\\_Lance\\_08\\_2004.html](http://speeches.byu.edu/htmlfiles/Wickman_Lance_08_2004.html))

In a February 27, 2008 article entitled, "Misunderstanding the Book of Mormon," on the online Meridian Magazine, John A. Tvedtnes writes:

The word "compass" appears many times in the King James version (KJV) of the Bible. The verbal form means "go around"(n.2) or "surround" (n.3), while the noun form means "round" in shape" (1 Kings 7:35; 2 Chronicles 4:2), which fits the term "ball" by which the Nephites called it. Our magnetic compass takes its name from the fact that it describes the round horizon and the 360 degrees it comprises.

In a similar fashion, the compass used to draw circles by draftsmen and carpenters (cf. Isaiah 44:13) is tied to the same principle. So when Nephi calls the Liahona a "compass" (1 Nephi 18:12, 21; 2 Nephi 5:12), he seems to be referring to its round shape, not magnetic qualities. Neither of the two "spindles" or "pointers" inside the ball pointed north; one pointed the way the group should travel, while the other displayed written directions from the Lord; both worked according to the group's faith (1 Nephi 16:10, 26-30; Alma 37:38-44).

n.2E.g., Numbers 21:4; 34:5; Joshua 6:3-4,7; 15:3; 2 Samuel 5:23; 1 Kings 7:15,23; 2 Kings 3:9; Psalm 26:6; Jeremiah 31:39; Acts 28:13

n.3E.g., 2 Kings 11:8; 2 Chronicles 4:2-3; 23:7; Job 16:3; 40:22; Psalms 5:12; 7:7; 17:9; 32:7,10; 49:5; 140:9; 142:7; Jeremiah 52:21; Luke 19:43

([www.ldsmag.com/](http://www.ldsmag.com/))

xxxv. In reviewing another author who linked the Liahona with magnetism, John L. Sorenson writes:

She falls into a nominalist fallacy (p. 278) by letting the translated word 'compass' determine how she thinks about the 'Liahona.' By considering the latter to fit into the same lexical domain

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as modern English "compass," she supposes that the device must have pointed out (cardinal) directions to Lehi and Nephi. But magnetism could not have been the operative basis, since faith was (see Alma 38:40). If operative on the natural, magnetic principle, why would the Liahona have ceased functioning as soon as Nephi was tied up (1 Ne. 18:12) and start again when he was released? And how would a magnetic compass produce written messages (see 1 Ne. 16:26-27)? Clearly the Liahona was only vaguely like compasses we know; it was called by the same English word because, indeed, it was a direction pointer, but what it pointed to was the Lord's choice of route, not a fixed direction based on magnetism. (Review of Deanne G. Matheny, "Does the Shoe Fit? a Critique of the Limited Tehuantepec Geography," in *FARMS Review of Books*, vol. 6, no. 1 (1994), p. 310.)

xxxvi. The following are comments on some of the complications of reading a compass:

"The Compass shows magnetic north, not true north. Keep it away from anything made of iron or steel" [which affect the reading]. ("Beehive-Girls, Honor Badge No. 111," in *Improvement Era*, No. 5, May, 1935)

"Magnetic storms affect compass needles all over the earth at the same time. A violent magnetic storm in April, 1938, changed compass direction by several degrees within an hour, and in London, England, more than five degrees." (Franklin S. Harris Jr., "Exploring the Universe," *Improvement Era*, No. 3, March 1941)

"At this time, a compass set in Maine will point 18 [degrees] west of the true north, while at the same time one at Fort Yukon in Alaska will point about 36 [degrees] east of north; . . . making a difference in courses, between extreme points east and west, of fifty four degrees." (James H. Martineau, "The Magnetic Needle," in *The Contributor*, vol. 5, April 1884, No. 7)

"another error relative to the magnetic needle is, that it points in the same direction throughout the day. In addition to its yearly or "secular variation," it has also a *daily variation*." (Ibid.)

"Another very common misunderstanding is the idea that if a compass be set pointing truly north and south, that by turning it to a right angle it will give a true east and west course, running an indefinite distance in either direction. This is not true, from the fact that while a true north and south line is straight, a true east and west line is not straight but *curved*. For a short distance this curvature is not perceptible to the eye, but at the distance of half a mile or more becomes sufficient to lead an inexperienced person into difficulty if not taken into account; the difference between the true and apparent courses increasing rapidly as the length of the course run increases." (Ibid.)

"The question now arises-if the magnetic needle is so unreliable and uncertain, what is it good for? We answer that in the hands of one who understands its deficiencies and errors and knows how to correct them, it becomes of considerable value, giving a close approximation to a true course . . ." (Ibid.)

xxxvii. Robert L. Bunker, "The Design of the Liahona and the Purpose of the Second Spindle," in *Journal of Book of Mormon Studies*, Vol. 3 No. 2, Fall 1994, p. 4, notes 4 & 5. Bunker also writes of a differing interpretation. He notes that "the *Book of Mormon Student Manual: Religion 121 & 122* (Salt Lake City: The Church of Jesus Christ of Latter-day Saints, 1989), 16, under the heading 'The Liahona,' suggests that the antecedent of all the pronouns in this verse is the 'writing' on the outside of the Liahona." However, it is hard to find substance for this argument that "the writing on the outside of the Liahona" could be the antecedent for the pronoun "them." The only other plural in the set of verses quoted is "things which are written," but here too one would find it difficult to say "And there was also written upon them (meaning the 'things which are written') a new writing." People don't tend to write " a new writing" "upon things which are written."

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xxxviii. In 1950 in discussing the meanings derived from the word "Liahona," Hugh Nibley dismissed the idea of finding any definitive parallel. He wrote:

The name [Liahona] suggests so many possible Hebrew and Egyptian interpretations (it is, "being interpreted, a compass," Alma 37:38) that one man's guess is as good as another's, and it does not concern us here since, as a miraculous thing, it has no parallel in everyday life. ( Hugh Nibley, *The Collected Works of Hugh Nibley: Volume 5 The Book of Mormon. Lehi in the Desert*, Salt Lake City: Deseret Book Company and Provo: Foundation for Ancient Research and Mormon Studies, 1988, p. 109)

However, in his 3rd edition of the Melchizedek Priesthood Manual *An Approach to the Book of Mormon* first published in 1957, he modified his opinion. He writes:

A year after the manual appeared, those Cambridge scholars who first brought "patternism" to light issued an important volume summarizing the work of the past two decades and bringing their conclusions up to date. Suffice it to say that their work confirms all the basic features of "patternism" and fully supports our chapter on the subject—chapter 23 in the manual. In the following year (1959) an Arab scholar published a study on prehistoric Semitic arrow-divination which has allowed us to bestow a certificate of plausibility on the mysterious Liahona. (p. xv.)

In February, 1961, an article by Hugh Nibley ("The Liahona's Cousins") appeared in *The Improvement Era*. (Hugh Nibley, "The Liahona's Cousins," in *The Improvement Era* (vol 64, num. 2), pp. 87-111) In that article Nibley compared the working of the spindles in the Liahona to Arab divining sticks and the practice of Belomancy. On page 104 he writes:

Belomancy is the practice of divination by shooting, tossing, shaking, or otherwise manipulating rods, darts, pointers, or other sticks, all originally derived from arrows. Over ten years ago the present writer made a fairly exhaustive study of ancient arrow-divination, and some years later presented in the pages of the *Era* a long discourse on the ritual use of sticks and rods, especially in ancient Israel. ("The Stick of Judah and the Stick of Joseph." *Improvement Era*, Vol. 56, Jan. to May, 1953) Yet it was not until he saw Fahd's study, the first full-length treatment of old Semitic arrow-divination, that it dawned upon him that these old practices might have some connection with the Liahona.

Fahd begins by pointing out that the "arrows" used in divination, called *qid-h* or *zalam*, were devoid of heads and feathers, being mere shafts or pointers. (T. Fahd, "*Une Pratique cleromantique a la Ka'ba preislamique*," *Semitica*, VIII, 1958, p. 61 ) Since Lane has given a fuller description of these objects from the sources, we can do no better than quote *his* quotations.

"*zalam*, pl. *azlam* [divining-] arrows by means of which the Arabs in Time of Ignorance (i.e. before Islam) sought to know what was allotted to them: they were arrows upon which the Arabs in the Time of Ignorance wrote "Command" [on one] and "Prohibition" [on the other]; or upon some of which was written "My Lord hath commanded me"; and upon some, "My Lord hath forbidden me": or there were three arrows ; upon one of which was written "My Lord hath commanded me"; etc. . . . and the third was blank; and they put them in a receptacle, and took forth an arrow; and if the arrow upon which was "Command" came forth, he went to accomplish his purpose; but if that upon which "Prohibition" was written came forth, he refrained; and if the blank came forth, they shuffled the second time . . . (E. W. Lane, *Arabic-English Lexicon*, I, 1247, s.v. *zalam*.)

xxxix. FARMS seems to concur with Nibley's viewpoint. On their website under the title "Liahona" ("Other Evidence of the Week") we find a quote from Nibley:

A . . . study by an Arabic scholar has called attention to the long-forgotten custom of the ancient Arabs and Hebrews of consulting two headless arrows whenever they were about to undertake a journey; the usual thing was to consult the things at a special shrine, though it was common also to take such divination arrows along on the trip in a special container. The message of the arrows, which were mere sticks without heads or feathers, was conveyed by their pointing and especially by the inscriptions that were on them, giving detailed directions as to the journey. (Nibley, *Prophetic Book of Mormon*, 244, 245).

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This quote is also part of a book review by Kevin Christensen ("Dan Vogel, Indian Origins and the Book of Mormon," *FARMS Review of Books*, vol. 2 (1990), p. 221), in which he says the following:

Vogel also ignores the Old World context of the Book of Mormon completely. For example, consider the context in which Vogel discusses the Liahona. "Debates about such ocean crossings often turned on questions about navigation. Many argued against migration by sea since the ancients had no knowledge of the mariner's compass."(p. 45). For Vogel, the Liahona is best explained as an anachronistic response to local debate.

Although the mariner's compass had not yet been invented, the Lord provided Lehi with a compass-like instrument, described as a "round [brass] ball of curious workmanship." Inside the ball were "two spindles," one of which "pointed the way whither we should go into the wilderness." (p. 51)

Where Vogel sees a magnetic mariner's compass, Hugh Nibley approaches the text against the purported context and provides an alternate picture.

The Liahona was a hollow bronze sphere in which were mounted two pointers, headless arrows that bore mysterious inscriptions and pointed the way that Lehi's party should travel in the desert. Besides pointing the direction, the arrows and the inscriptions also provided special instructions for the journey. They only worked during the expedition to the New World, after which they ceased to function.

*A recent study by an Arabic scholar has called attention to the long-forgotten custom of the ancient Arabs and Hebrews of consulting two headless arrows whenever they were about to undertake a journey; the usual thing was to consult the things at a special shrine, though it was common also to take such divination arrows along on the trip in a special container. The message of the arrows, which were mere sticks without heads or feathers, was conveyed by their pointing and especially by the inscriptions that were on them, giving detailed directions as to the journey. (See Hugh W. Nibley, "The Liahona's Cousins," *Improvement Era* 64 (1961: 87-89, 104-6, 108-11; in *CWHN* 7:251-63)*

Where Vogel sees a magnetic mariner's compass, Hugh Nibley approaches the text against the purported context and provides an alternative picture.

This idea is also supported in an article by John M. Lundquist, "Biblical Seafaring and the Book of Mormon," which appears in the Appendix (171-175) of Raphael Patai, *The Children of Noah: Jewish Seafaring in Ancient Times*, Princeton, New Jersey: Princeton University Press, 1998.

Another analysis of the Liahona appears in the *FARMS Journal of Book of Mormon Studies*. Under the title "The Design of the Liahona and the Purpose of the Second Spindle," Robert L. Bunker discusses the idea of two pointers being confirmatory of one another. He also comments on the idea that there was writing on the pointers: "The amount of text inscribed on the pointers cannot be ascertained from Nephi's description, but the physical size of the writing must have been small; otherwise, the observation that it "was plain to be read" (1 Nephi 16:29) would have been unnecessary." . (*Journal of Book of Mormon Studies* , Vol. 3 Num. 2 (Fall, 1994), p. 5)

<sup>xi.</sup> Although the mention of "famine" in conjunction with the Liahona in Mosiah 1:17 might imply that there were times in the desert that directions might have been uncertain.

<sup>xii.</sup> John A. Tvedtnes, "Misunderstanding the Book of Mormon," *Meridian Magazine*, February 27, 2008 (online) ([www.lds.mag.com/](http://www.lds.mag.com/)) This article seems to be related to a 2002 address by John Tvedtnes to the Conference of the FAIR organization entitled, "The Mistakes of Men: Can the Scriptures be Error-Free?" in which he said the following:

Though the word "compass" in our day usually denotes a device used to determine the direction of magnetic north, it need not have that meaning in the Book of Mormon. The word "compass" may have been the closest equivalent of the original word available to Joseph Smith in the English language. Moreover, "compass" has several other meanings in English and originally meant "circle" (as in the compass used to draw circles). The word "compass" also



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appears a number of times in the King James Version of the Bible, usually as a verb but sometimes as a noun (Exodus 27:5; 38:4; 1 Kings 7:35; Isaiah 44:13).  
([http://www.fairlds.org/FAIR\\_Conferences/2002\\_Can\\_the\\_Scriptures\\_be\\_Error-Free.html](http://www.fairlds.org/FAIR_Conferences/2002_Can_the_Scriptures_be_Error-Free.html))

xiii. E.g., Numbers 21:4; 34:5; Joshua 6:3-4, 7; 15:3; 2 Samuel 5:23; 1 Kings 7:15, 23; 2 Kings 3:9; Psalm 26:6; Jeremiah 31:39; Acts 28:13.

xiii. E.g., 2 Kings 11:8; 2 Chronicles 4:2-3; 23:7; Job 16:13; 40:22; Psalms 5:12; 7:7; 17:9; 32:7, 10; 49:5; 140:9; 142:7; Jeremiah 52:21; Luke 19:43.

xiv. In 1 Kings 7, in describing the ornaments of Solomon's Temple, we find the following:

(verse 23: And he made a molten sea, ten cubits from the one brim to the other: it was round all about, and his height was five cubits: and a line of thirty cubits did **compass** it about. . . .

(verse 35) And in the top of the base was there **a round compass\*** of half a cubit high: and on the top of the base the ledges thereof and the borders thereof were of the same.

2 Chronicles 4:2: And he made a molten sea of ten cubits from brim to brim, round in compass, and five cubits the height thereof: and a line of thirty cubits did compass it round about.

*Note\** Interestingly, in a different Bible translation, 1 Kings 7:35 reads, "On the top of the stand there was a round band half a cubit high; . . ." [<http://bible.oremus.org/?passage=1Kings+7>]

xiv. Isaiah 44:13: The carpenter stretcheth out his rule; he marketh it out with a line; he fitteth it with planes, and he marketh it out with the **compass**, and maketh it after the figure of a man, according to the beauty of a man; that it may remain in the house.

xvi. Tony Decker, *Why I Believe the Book of Mormon (And Why Anybody Can)*, Arlington, VA: Stratford Books, 2007, p. 36.

xvii. Although iron is easily magnetized, it also loses its magnetism relatively quickly. Steel, on the other hand, retains its magnetism for an extended period of time. It will be remembered that Laban's sword was made of "steel" (1 Ne 4:9) and that Nephi might have been able to copy this metallurgical technique (2 Ne 5:14). Thus "steel" might have been available at the time.

xviii. In an article entitled "History of Chinese Invention-Invention of the Magnetic Compass," ([www.computersmiths.com](http://www.computersmiths.com)) there appears an illustration with the following caption: "The figure to the right shows a working model of the first instrument known to be a compass. The spoon is of magnetic loadstone, and the plate is of bronze. See also John W. Welch, "Lodestone and the Liahona," in *Reexploring the Book of Mormon*, SLC: Deseret Book Company and Provo: FARMS, 1992, p. 44.

xix. John A. Tvedtnes, "Misunderstanding the Book of Mormon," *Meridian Magazine* (online) [www.ldsmag.com](http://www.ldsmag.com), 2/27/2008. This article seems to be related to a 2002 Tvedtnes address to the Conference of the FAIR organization entitled, "The Mistakes of Men: Can the Scriptures be Error-Free?" in which he said the following:

We should also note that the fact that the Lord had to "prepare" the device for Lehi implies that it was an instrument not known in his day. So we don't have to worry about whether it was a magnetic compass or not, on the grounds that such an instrument didn't exist at that time. The Lord surely knew the principles on which the magnetic compass works, and could have provided one for Lehi. But it's unlikely that this is what the Book of Mormon intended.  
([http://www.fairlds.org/FAIR\\_Conferences/2002\\_Can\\_the\\_Scriptures\\_be\\_Error-Free.html](http://www.fairlds.org/FAIR_Conferences/2002_Can_the_Scriptures_be_Error-Free.html))

<sup>1</sup> This material was later reprinted as "Lodestone and the Liahona," in *Reexploring the Book of Mormon*, John W. Welch ed., SLC: Deseret Book Company and Provo: FARMS, 1992, p. 44.

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- li. V. Garth Norman, "Book of Mormon Myths: Rethinking Understanding the Book of Mormon," ([www.ancientamerica.org/library/media](http://www.ancientamerica.org/library/media) . . . )
- lii. <http://1828.mshaffer.com/d/word/compass>
- liii. *Websters New World Dictionary of the American Language* (College Edition), New York: The World Publishing Co., 1964, p. 1403.
- liv. Robert L. Bunker, "The Design of the Liahona," in *Journal of Book of Mormon Studies* 3/2 (Fall 1994), pp. 1-11.
- lv. Algirdas Avizienis et al., "Fault-Tolerant Computing: An Overview," *IEEE Computer* 4/1 (January-February 1971): 10.
- lvi. See my comments on the chronological evolution from four directions, to eight directions, to sixteen, thirty-two, etc. at the end of Chapter 5.

lvii. The extent of this distance might be affected by a number of factors: (1) whether or not Nephi was riding on a camel or donkey or traveling on foot; (2) how far away Lehi's base camp was from the top of the mountain. Meat tends to spoil in heat unless proper precautions are taken in dressing the animal and returning to a place where the meat can be smoked. According to David Cope, a friend and longtime owner of a local meat processing plant, Nephi would only have had only about 6-8 hours to get the meat back to camp for smoking. (3) A possible third factor could have been associated with Nephi's making a new bow after breaking his steel one. This is not necessarily apparent until a real-world scenario is in place. George Potter and Richard Wellington (*Lehi in the Wilderness*, Springville, 2003), whom I consider to be the most insightful authors on the geographical and cultural aspect of this part of Nephi's narrative, give the following perspectives:

After Medina the oases were at Turbah, Bishah, Tathlith, Ranyah and Najran, five oases over a distance of more than seven hundred fifty miles. Now, rather than an oasis to rest at every night, they were many days or weeks apart. . . . The trail south from Medina headed inland. In order to skirt the lava fields it stayed in the desert, the entire course being approximately three hundred fifty miles to Bishah. [p. 95]

The mountains in this part of Arabia are called the Asir, which means "difficult" because of the impact of the terrain on travel. It is the only place in Arabia where the camel is replaced by the donkey as the chief pack animal. The trail headed inland to avoid the mountains and the lava fields. [p. 95]

Since it is impossible to travel in Arabia during the hot months of May through October, Lehi would have stopped for the summer to rest. . . . Bishah is the closest trail oasis to the mountains, and thus a logical place to leave the trail to find refuge from the heat. From the Frankincense Trail staging center at Bishah, the high wadis of the Asir are no more than sixty-five miles distant, and the summer temperatures are relatively pleasant, for the most part remaining about eighty to ninety degrees Fahrenheit. [p. 98]

. . . wadi Tabalah and wadi Bishah, pass through or near the town of Bishah. Either of these wadis would have provided a ready-made path into the mountains. Surrounded by mountain peaks, the wadis end at an altitude of approximately 6,000 feet or more. Nephi says that he "did go forth up into the top of the mountain" (1 Ne 16:30) to hunt. This seems to imply that they were already on the slope of a mountain and that he went up to the top to hunt. From this point in the wadi [6,000 ft] Nephi could have continued on foot to the tops of the mountains, which are up to 9,000 feet high. [p. 99]

When Nephi's bow broke, he needed to quickly construct a new one. . . . Could Nephi have found bow wood in the mountains, and if so where? . . . [p. 99]

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*[Potter & Wellington then note that in researching this question, Neil Holland found out that one of the best woods for constructing a bow was from a tree called the Atim or olive tree.]*

[We] learned that [the Atim tree] is found on both the western and eastern slopes of the mountains in the Hijaz, Asir and the Yemen. In the Asir (at 17-18° north longitude) olive is found in association with Juniper trees in "forests" and grows between 2,000 and 2,400 meters (6,500-7,800 feet. Farther south (14-15° north) olive trees range in altitude from 1,600 to 2,700 meters (5,200-8,775 feet). . . [p. 100]

. . . it would seem that if Nephi had made his bow from Atim that it would have been most likely that he would have found the wood in the Asir (southern Saudi Arabia) rather than farther south in the Yemen. [p. 102]

. . . we set out to estimate the northern limits of the Atim trees. We discovered that within fifteen miles south of Al-Baha, the Atim trees disappeared. This would mean that the extent of the Atim tree seemed to range only seventy-two miles north-south in a narrow band of slopes between 6,000 to 7,000 feet in elevation. However, all but the very northernmost trees of the Atim range were too far from the Frankincense Trail for Nephi to have reached them. At Bishah, the Frankincense Trail turned to the east-southeast (rather than south-southeast) for sixty-five miles to reach Tathlith. In other words, once the trail left Bishah it was heading away from the Atim groves. However, the most copious Atim groves we found were due west of Bishah. Add to this the fact that just northwest of Bishah runs a series of long westward valleys, the wadis Tabalah, Huran, Jamah, Runmah, Tarj and Amal, that provide a camel trail through the rocky foothills and into the high wadis between Al-Qadim and Jabal Azzh, and it seemed to us most likely that this was the approximate area where Nephi made his bow. [p. 105]

So what bow wood do we think Nephi used? While it is impossible to know with certainty what wood Nephi used to make his bow, we may assume that he used a wild tree, since the loss of the bows seemed to lead to hardship and lack of food. . . . If the bow were made below 1,000 meters then tamarisk is a possibility, up to 2,000 meters it was more likely Acacia; above 2,000 meters then olive becomes more probable. [p. 105]

Since Nephi did not leave the group when he made the bow (1 Ne. 16:23) like he did when he went to hunt (1 Ne. 16:32), the bow appears to have been made from wood near the family's camp. When Nephi went to hunt, he followed the directions he was given on the Liahona. He tells us "I, Nephi did go forth up into the top of the mountain" (1 Ne. 16:30). The Asir is a mountain range with hundreds of peaks, but Nephi seems to mention a specific one and so it may be that he was already on the upper slopes of the mountain . . . If this were the case and the family were already in the mountains, then olive becomes the even more likely possibility. . . . The bow he made seems to have worked well. With one arrow he was able to kill a number of animals, so it must have been accurate enough to kill small game (he couldn't have carried a number of large animals [1 Ne. 16:32]). All of this points towards Atim (olive) as the most likely candidate. [p. 105]

lviii. "Nabataea: Maritime 2," <http://nabataea.net/sailing.html>

lix. Jean Michel Kalouguine writes:

Habit to use stars as celestial landmarks and to take their altitude is old. The most primitive instrument for this purpose is without contest the human body: The arm, extended or folded in front of the eyes, the hand, arm extended fingers closed or apart, . . . the finger thickness became a unit of measure for the Arabic seafarer. (see [http://kaloujm.com/page\\_](http://kaloujm.com/page_)

kamal\_uk.php)

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This finger measurement technique led to the development of a simple latitude instrument that Arabian navigators at sea and on land (or across the desert) called a "kamal." The Arabian kamal was a rectangular plate about one by two inches with a string inserted in the center. On the string there were approximately nine knots at measured intervals. The rectangle was moved away from one's face until as the person gazed at the plate, the upper edge corresponded to the pole star\* and the lower edge corresponded to the horizon. The loose end of the string was then held taut in the teeth. The distance or length of string between the plate and the person's face (the tip of the nose) was then measured by the knots in the string. If the number of knots was less, then the plate was closer to the navigator's face and the plate blocked from view a greater distance between the pole star and the horizon, which meant that the navigator was at a farther north latitude. If the number of knots was more, then the plate was farther away from the navigator's face and blocked out less distance between the pole star and the horizon. Thus the navigator was at a latitude farther south. By keeping track of the relative latitudes of the ports or caravan stops, the Arab navigator could get at least some bearing on where he was. Yet the Kamal was limited. It was only really useful for measuring Polaris in equatorial latitudes, which perhaps explains why it was not common in Europe. (see "Nabataea: Maritime 2" <http://nabataea.net/sailing.html>)

*Note\* While in early times there might not have been a singular north star, navigators would have probably focused on another constellation star that rotated around the north celestial pole.*

ix. Yet Laban's sword of "steel" seemed to be preserved for centuries.

lxi. As for the meaning of the word "Liahona," there have been a number of attempts to define it. For example, from the Editor's Table of the 1907 *Improvement Era* we find the following:

The name of the new publication [Liahona] is selected from the Book of Mormon, and means, being interpreted, a compass. . . . The *Deseret News*, in speaking of the probable etymology of the word says: "The word is both Egyptian and Hebrew, and in both languages signifies 'light.' Liahona, or L Jah Ona" - L (to) Jah (Jehovah) On (House of the Sun)-"then, it seems to us, may safely be translated literally: 'To Jehovah is Light.' That is to say, the Lord has indeed light to give to his servants who trust him and obey his word. . . . It would be presumptuous on our part to speak authoritatively on the subject. But it will be admitted that if the conclusions here suggested are correct, the word Liahona has a very beautiful and significant meaning." ("Liahona," *Improvement Era*, vol. X, April, 1907, No. 6)

Hyrum M. Smith and Janne M. Sjodahl write:

When Lehi perceived the wonderful qualities of this instrument, he exclaimed, in ecstasy *Liahona!* and that became its name (Alma 37:38). Liahona is a Hebrew word with, possibly, a Nephite termination, added later. L means "to"; *Jah* is an abbreviated form of the sacred name, "Jehovah," and *on* means "light." The meaning, then, is, "To Jehovah is light"; that is, "God has light; light comes from God," for He had answered his prayers for light and guidance. Similarly, Hagar, after having seen the Angel of the Lord, said, *Beer-lahai-roi*; that is, "The well of the Living One who seeth me" (Gen. 16:13). (*Doctrine and Covenants Commentary*, First Period, 1823-1830, section 17, p. 78) (See also Hoyt W. Brewster, Jr., *Doctrine and Covenants Encyclopedia*, p. 361; Daniel H. Ludlow, *A Companion to Your Study of the Doctrine and Covenants*, vol. 1, p. 129; Joseph Fielding McConkie and Robert L. Millet, *Doctrinal Commentary on the Book of Mormon*, vol. 3, p. 282.)

Paul R. Cheesman writes:

It is believed by some that the word *Liahona* means "To God Is Light"; that is to say, God gives light as does the sun. ("Lehi's Journeys" in *The Book of Mormon: First Nephi the Doctrinal Foundation*. Monte S. Nyman and Charles D. Tate, Jr. eds, Provo: BYU Religious Studies Center, 1988, p. 244 citing George Reynolds and Janne M. Sjodahl, *The Story of the Book of Mormon*, Salt Lake City: Deseret News Press, 1955, pp. 10-11.)

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Hugh Nibley writes:

And many people have dealt with the word *Liahona*. We had a teacher from Hebrew University here for a few years; in fact he bought a house in Provo. He was so fond of it he wanted to come and visit often. His name was Shunary. He never joined the church, but the first thing that fascinated him was this name *Liahona*. He traced it back to the queen bee, the leader of bees swarming in the desert. When bees swarm, that's *Liahona*. I took it from a different one. *Yah* is, of course, God Jehovah. *Liyah* means the possessive, "To God is the guidance," *hona* (*Liyahhona*). That's just a guess; don't put it down. But it's a pretty good guess anyway. (Hugh Nibley, *Teachings of the Book of Mormon - Semester 1 . . . Brigham Young University, 1988-1990*. Provo: FARMS, p. 216.)

In 2007 Jonathan Curci would write:

My approach is to transliterate back into the Hebraic idioms of the time of Lehi what I perceive that Joseph Smith saw or heard and dictated. Then I present the grammatical elements used to form the name *Liahona*, which I show to mean quite literally "to Yahweh is the whither" or, by interpretation, "direction of-to the Lord."

Key to my analysis is a methodology based on the premise that *Liahona* was formed according to the traditional Hebrew method of forming names. The Hebrews created new words by combining existing words in accordance with the circumstances in which the need for that new word arose, taking into account the purpose of the object that received the word. . . .

(*Liaho* "to (of) the Lord") The meaning of the *Liaho* ("to (of) the Lord") part of the word is common to all the above explanations and seems to gather the agreement of most scholars. . . .

(*The Direction [Director] of YHWH* or literally "*To the Lord Is the Whither*") How can *Liahona* possibly mean "compass" or "director"? The answer is found in the final part of the word (*liaho*) 'ona: the adverb 'ona appears several times in the preexilic texts of the Hebrew Bible. It can be translated as "whither." It is often tied to the verb *halakh* "to go." Some instances in which it appears are Genesis 16:8 "whither wilt thou go?" and "whither are you going" (see Genesis 37:30; also 2 Kings 6:6; Genesis 32:17; 37:30). The adverb 'ona means *direction* or motion to a certain place. . . .

[Note\* Perhaps other Bible passages would be more applicable here. In the book of Deuteronomy the word "whither" is used twenty-six times. This is more than in any other book of the Old Testament (All other books fall way short of that number with the exception of the book of Jeremiah [21 times] and Ezekiel [11 times]) The context is one in which the children of Israel are told by Moses that they should keep the commandments of the Lord, for the land that they are being led to by the Lord is a covenant land. For example, Deuteronomy 4:5 states: "Behold, I have taught you statutes and judgments, even as the LORD my God commanded me, that ye should do so in the land whither ye go to possess it." Previously in Leviticus 20:22 we find, "Ye shall therefore keep all my statutes, and all my judgments, and do them: that the land, whither I bring you to dwell therein, spue you not out." ]

The following passages [in the Book of Mormon] give a contextual meaning of the adverb 'ona meaning "whither."

And within the ball were two spindles; and the one pointed the way *whither* ['ona] we should go into the wilderness. (1 Nephi 16:10)

I, Nephi did make out of wood a bow . . . And I said unto my father: *Whither* ['ona] shall I go . . .? (1 Nephi 16:23, 30)

The compass . . . did cease to work. Wherefore, they knew not *whither* ['ona] they should steer the ship . . . (1 Nephi 18:12-13, 21)

The adverb *whither* is present with the translations of the word *Liahona*.



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The appearance of the terms *compass*, *ball*, and *director* in the text is usually related to the question, "whither shall we go?" ('*ona nelekh*'). This is why they called the compass *Liahona*: it indicated the direction of the Lord. . . .

Thus, when the children of Lehi questioned "Whither shall we go?" the *Liahona* provided the answer in accordance with their faith: it embodied the "direction of the Lord," which is the literal translation of the term *Liahona*. (Jonathan Curci, "Liahona: 'The Direction of the Lord': An Etymological Explanation," in *Journal of Book of Mormon Studies*, Provo, Utah: Maxwell Institute, vol. 16, issue 2, 2007, pp. 60-67)

lxii. In a February, 1961 article by Hugh Nibley ("The Liahona's Cousins," in *The Improvement Era*, vol 64, num. 2, pp. 87-111), he writes the following:

. . . our fathers called it Liahona, which is, being interpreted a compass." Liahona is here clearly designated as an Old World word from the forgotten language of the fathers, which must be interpreted to present readers. But what is a compass? According to the Oxford dictionary, the derivation of the word remains a mystery; it has two basic meanings, but which has priority nobody knows: the one is "to pass or step together," referring always to a *pair* of things in motion; the other refers to the nature of that motion in a circle, "to pass or step completely," to complete a "circumference, circle, round," to embrace or enclose completely. Thus whether it refers to the ball or the arrows, "compass" is the best possible word to describe the device, though generations of Book of Mormon critics have laughed their heads off at the occurrence of the modern word in what purports to be an ancient book.

In George Reynolds and Janne M. Sjodahl, *Commentary on the Book of Mormon*, we find the following: The "compass" (vv. 12 and 21) is the round ball of curious workmanship described in 1 Ne. 16:10. Some have assumed that the term was meant to convey the idea that Lehi, more than 500 years B.C. had the mariners' instrument which is supposed to have been unknown in the western world until the 12th century A.D., and that "compass" therefore, is an anachronism which furnishes evidence of the very human origin of the Book of Mormon. . . . the word "compass" is a good English word, meaning not only the mariners' instrument but a circle or a globe in general, a round, a circuit. In Num. 34:5 and Joshua 15:13 it refers to the bend in the southern boundary line of the land of Israel, "from Azmon unto the river of Egypt" and from there to the sea. Luke, in Acts 28:13 uses the term for the course steered by the ship from Syracuse to Rhegium. . . . In 2 Sam. 5:23 and 2 Kings 3:9, to "fetch a compass" means to surround a portion of the army of an enemy. In Proverbs. 8:23, "compass" refers to the circular horizon . . . It is clear from these references that the term as applied in the Book of Mormon to the little round ball of Lehi is correct. ("The First Book of Nephi, Chapter 18, verses 12-20," edited and arranged by Philip C. Reynolds, 7 vols., vol 1, p. 188)

lxiii. Hugh Nibley, "The Liahona's Cousins," in *The Improvement Era*, February, 1961, vol 64, num. 2, pp. 87-111. On page 109 he writes: "Religion becomes magic when the power by which things operate is transferred from God to the things themselves. . . . When men lack revelation they commonly come to think of power as residing in things."

lxiv. In reviewing the literature, as far as I have been able to find, the earliest LDS article that speaks positively for the idea that the Liahona was magnetic comes from the 1883 book *The Life of Nephi, the Son of Lehi*. Cannon did preface this remark, however, with a disclaimer that the Liahona "differed in several respects from what are known as compasses." (see Part 3 for this full quote)

The next comment comes from a 1909 book by B. H. Roberts. Strangely enough, at the end of a whole page of comment by B. H. Roberts directed to prove that the Liahona was *not* a magnetic compass as anti-Mormon writers had charged, Roberts ends with the following:

The antiquity of the compass really, of course, is of no importance in this discussion, since it is not claimed that "Liahona" is a compass, but an entirely different instrument, "and the Lord prepared it;" still, in passing, it may be well to point out that those who have attempted to make

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capital out of this supposed anachronism have not stated the whole truth concerning the compass.

"The directive power of the magnet," says a respectable authority "seems to have been unknown in Europe till late in the 12th century. It appears, however, on very good authority, that it was known in China, and throughout the east generally, at a very remote period. The Chinese annals indeed assign its discovery to the year 2634 B.C., when, they say, an instrument for indicating the sun was constructed by the emperor Hou-angti. At first, they would appear to have used it exclusively for guidance in traveling by land. ("Universal Knowledge," Chambers, p. 203) ("The marvels of Liahona," in *New Witnesses for God*, 3 vols., Salt Lake City: Deseret News, Vol. 3, 1909, pp. 550-552)

In March of 1984 the FARMS organization sent out a 1-page Update entitled "Lodestone and the Liahona" (author not named) to those financially contributing members belonging to their Cornerstone Club. Each month the Update was sent out to all major contributors and active volunteers. They were "state-of-the-art short studies" reporting the organization's most recent discoveries and works in progress. At the end of 1984 these articles were assembled into one report for distribution. In this article we find the following:

While the Book of Mormon does not tell us whether the Liahona functioned partly on geomagnetic principles, Nephi did say that it contained two spindles, one of which functioned as a directional pointer, and that the body was made of "fine brass" (1 Nephi 16:10, 28). Brass is an excellent noncorroding and nonmagnetic case for a compass. Those who are familiar with modern compasses might naturally ask whether the Liahona worked on a similar principle, with a magnetic function for one spindle, and a possible azimuth setting for the other. Perhaps part of Laman's skepticism was based on some familiarity with just such a technology. . . .

Although we do not know specifically what Laman had in mind, it is worth noting that the function of magnetic hematite was well understood in both the Old and New Worlds before Lehi left Jerusalem. Magnetite, or *lodestone*, is, of course, naturally magnetic iron ( $Fe_3O_4$ ), and the word *magnetite* comes from the name of a place in which it was mined in Asia Minor by at least the seventh century B.C., namely Magnesia. (Thales of Miletus is the first known to have mentioned its strange properties, ca. 600 B.C.). Professor Michael Coe of Yale University, a top authority on ancient Mesoamerica, has suggested that the Olmecs of Veracruz, Mexico, were using magnetite compasses already in the second millennium B.C. This is based on Coe's discovery during excavations at San Lorenzo-Tenochtitlan of a magnetite "pointer" (M-160) which appeared to have been "machined," and which Coe placed on a cork mat in a bowl of water in a successful test of its function as a true floater-compass. (J. B. Carlson, *Science* 189: 753-760; . . . )

In 1992 the above Update "based on research by Robert F. Smith, March 1984" would be reprinted as "Lodestone and the Liahona," in *Reexploring the Book of Mormon: The F.A.R.M.S. Updates*, edited by John W. Welch (Salt Lake City: Deseret Book Company and Provo: Foundation for Ancient Research and Mormon Studies, 1992, pp. 44-46).

In 1993 an article written by Deanne Matheny appeared in the publication *New Approaches to the Book of Mormon: Explorations in Critical Methodology* in which she criticized John Sorenson's writings on Book of Mormon culture and geography. One aspect had to do with Sorenson's skewed directional system for Book of Mormon geography. Matheny argued for cardinal directions. Included among her reasonings was the fact that, "Additionally Lehi's party had the Liahona, which is called a "compass" a number of times in the Book of Mormon . . ." (*New Approaches* . . . , SLC: Signature Books, 1993, p. 278) However, In his 1994 rebuttal to Matheny, John Sorenson dismissed the idea of a magnetic compass. (Review of Deanne G. Matheny, "Does the Shoe Fit? a Critique of the Limited Tehuantepec Geography," in *FARMS Review of Books*, vol. 6, no. 1 (1994), p. 310.)

In the Fall 1994 *Journal of Book of Mormon Studies* (Vol. 3 No. 2, pp. 1-11) there appeared an excellent article by Robert L. Bunker ("The Design of the Liahona and the Purpose of the Second

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Spindle") which has been discussed previously (see note 26). While the article broached the subject of the magnetic compass, no specific proposal was put forth. The focus of the article was on design not function, and the closest the author got to the principle of magnetism was in footnotes #2 and #3. In footnote #2 he writes on the description of a "spindle": "Such a spindle-shaped pointer is often encountered in magnetic compasses (cf n. 3) where some type of marking designates one end as north." But he follows that statement with the following: "The spindle in the Liahona used to designate direction would also have required differentiation between ends, either by color, texture, or shape. In note #3 Bunker comments on an analogous design to a magnetic compass and also hints at function but his ideas are not made clear. He seems to be making contrary statements regarding a magnetic Liahona. He writes: "Since the magnetic compass in Lehi's time was still many centuries from discovery, the use of the word "compass" by Joseph Smith in translation to refer to the Liahona reinforces not only the analogy of directional function with the modern compass but also of design." It is not clear to me what Bunker had in mind by saying that the word "compass" in the Book of Mormon reinforced "the analogy of directional function with the modern compass."

In a 1996 RLDS book by Glenn A. Scott, Jr. he writes:

Next morning as Lehi left his tent, he saw on the ground a brass ball of "curious [intricate] workmanship" (1 Nephi 5:11 [16:10]). . . . Nephi called it a compass (1 Nephi 5:190 [18:12] for it did serve that purpose. The magnetic compass had been invented in China long before this time. (*Voices from the Dust: New Light on an Ancient American Record*, Independence, Missouri: School of Saints, p. 77)

Although Scott does not cite either the 1992 article or the original 1984 article by Smith, he does include the information on Michael Coe. Whether this would indicate his source was the 1992 FARMS publication, the original 1984 article, or the original articles on Michael Coe is not made clear.

<sup>lxv.</sup> Alexander Campbell, *Delusions. An Analysis of the Book of Mormon; With an Examination of Its Internal and External Evidences, and a Refutation of Its Pretences to Divine Authority*. Boston: Benjamin H. Greene, 1832, p. 13.