

of the inscriptions, however, lay the Pacific Ocean. Teotihuacan was actually to the north-northwest. To put it simply, the directional systems of some ancient cultures were not based on the same cultural principles as ours.<sup>39</sup>

When we examine Book of Mormon directions, we find a pattern that fits amazingly well with the Mesoamerican understanding of directions. Poulsen points out that there are 378 Book of Mormon references to direction. 19% of those references denote east or eastward directions, 16% west or westward, while 39% reference north or northward directions and 27% south or southward.<sup>40</sup>

Other than the slight under sampling of south notations (which is likely based on the fact that the south was mostly Lamanite territory and would likely demand fewer references in a book written by Nephites), the percentages match what we should expect to find in a Mesoamerican directional concept.

When we overlay the Mesoamerican direction system on Central American, we find that the upper part of the Isthmus of Tehuantepec really is in the north, while the lower part is really in the south. Plus we find that there are seas north, east, south, and west, and that the Nephites are surrounded by water like "an isle of the sea" (2 Nephi 10:20).

Understanding the way that the ancient Mesoamericans understood directions not only strengthens the theory that Book of Mormon events took place in Central America, but it also supports the claim that the Nephite scripture is based on an authentic ancient text.

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## Others in the Book of Mormon

The traditional LDS belief asserts that the Lehitites arrived to a nearly vacant New World, with the possible exception of some Jaredite survivors and the Mulekites. This assumption, like many other assumptions about the Book of Mormon, comes from a naive reading of the text that was filtered through the nineteenth-century misunderstanding of the human migrations that populated the ancient New World. Early American settlers were fascinated with the fact that indigenous people already inhabited the New World. From where did these people originate? A number of frontiersman theorized that the Indians were remnants of the ten lost tribes of Israel. At first blush, this theory seemed to fit fairly well with the overall story of the Book of Mormon, even though the Book of Mormon peoples do not purport to come from any of the "lost tribes."

According to archaeologists, anthropologists, and DNA specialists, the first human migrations to the New World happened at least 15,000 years ago and probably came in three distinct migrations across a land bridge (the Bering Strait) that once connected Alaska to Siberia. A number of scientists also recognize the possibility of multiple small transoceanic crossings from the Old to New World by way of watercraft.

While the question as to the earliest date and route of populating the Americas is still hotly debated, scientists almost universally agree that the earliest people arrived in the New World thousands of years before Book of Mormon people came on the scene. Likewise, virtually all LDS scholars, regardless of their views on the location of the narrative, argue that a closer reading of the Nephite scripture suggests that Book of Mormon civilizations occupied a small area of Mesoamerica and intermingled with existing Native Americans (see Chapter 14).

A number of critics claim that the Church of their youth taught one thing while modern apologists are now altering Church doctrine to conform to scientific positions such as DNA findings in the New World. First, it is important to understand that such issues are not doctrinal, so changes in theories are irrelevant to gospel

truths. Second, changes in understanding the scriptures have come about in great part because the scriptures have been read with greater care. The belief that non-Nephtie people lived in the Americas was accepted by many LDS scholars long before the advent of DNA science.

In 2004, Matthew Roper gave a FAIR Conference presentation wherein he noted the numerous LDS discussions on this topic. In 1921, for instance, the *Improvement Era* (the precursor to the *Ensign*) published an article that read,

If scientists find... that there were human beings ... way back in glacial ages, the authors... offer no objection at all. ... If America was occupied by any race of people—pre-Jaredites, we may call them—information concerning them must be gathered, not from the Book of Mormon, but from geological strata, or from archaeological remains extant.... The Book of Mormon ... confines itself strictly to the history of the descendants of Lehi and Mulek. If science ... should declare that there are evidences of other influences ... that would not affect the authenticity of the Book of Mormon in the least.<sup>1</sup>

In April 1929, First Presidency counselor Anthony W. Ivins said in General Conference:

We must be careful in the conclusions that we reach. The Book of Mormon... does not tell us that there was no one here before them. It does not tell us that people did not come after. And so if discoveries are made which suggest differences in race origins, it can very easily be accounted for, and reasonably, for we do believe that other people came to this continent.<sup>2</sup>

In a 1957 statement approved for publication by the First Presidency, Elder Richard L. Evans described the Book of Mormon as “part of a record, both sacred and secular, of prophets and peoples who (with supplementary groups) were among the ancestors of the American ‘Indians.’”<sup>3</sup> In December 1975 the author of an article in the *Ensign* claimed that the term “Lamanite” could also refer to those who “descended from other groups of whom we have no record.”<sup>4</sup> That this view is accepted by at least some LDS leaders (and not just scholars) is evident from a statement made by Elder Dallin Oaks who claimed that while a student at BYU he “was introduced to the idea that the Book of Mormon is not a history of all of the people who have lived on the continents of North and South America in all ages of the earth.”<sup>5</sup>

Orson Pratt, B.H. Roberts, Anthony Ivins, John Widisoec, and other prominent LDS have all made comments suggesting the possibility that other non-Book-of-Mormon peoples may have inhabited the New World.

While the Book of Mormon never explicitly states that others people lived in Book of Mormon lands, there are implicit hints that such was the case. Following are

some of the implicit Book of Mormon passages that suggest that the Lehties encountered others in their new land.

Not long after arriving in the New World, Nephi separated from Laman, Lemuel, and the sons of Ishmael over contentions. We read that Nephi took his family, Zoram, Sam, and their families with him, as well as “all those who would go with me... those who believed in the warnings and the revelations of God” (2 Nephi 5:6). Who were these others who, in addition to those already mentioned, followed Nephi? The most plausible reading is that *other* people converted by Nephi also followed him—Laman, Lemuel, and the sons of Ishmael certainly did not. Who else was there to go? It is here that we first get the terms “people of Nephi” and “the people who were now called Lamanites” (2 Nephi 5:9, 14). At this point these terms took on a cultural perspective and referred to all peoples who aligned themselves with Nephi or his contentious brother (for more details see Chapter 16).

In most cultures, including ancient cultures, we find that people frequently use *exonyms* to refer to those outside their own group. An *exonym* is a name by which one group refers to a foreign group—a name not used by the foreign group themselves. For instance, people of the United States refer to one European group with the *exonym* “Germans.” The Germans, however, call themselves “Deutsch.” We also refer to the native people of the Americas as “Native Americans,” or “Indians”—neither of which is applied to these people from within their own groups. From a close reading of the Book of Mormon text, we find that Nephties and Lamanites were socio-political names. The Book of Mormon writers were Nephties and virtually everyone else is referred to with the *exonym* “Lamanite.”

In Jacob 7:1–26 we read of Sherem’s encounter with Jacob. Because Jacob was one of the original Lehties in the New World, the maximum adult population among the Lehties could not have been more than fifty people—there is no way that all of those people weren’t familiar with each other. Yet Sherem came from another settlement and had never met Jacob, the chief Nephtie priest.

Within 15 years Joseph and Jacob were made *priests* and *teachers* “over the land of my [Nephtie’s] people” (2 Nephi 5:26). We read that within 25 years of their New World arrival, the Nephties were at “war” with the Lamanites. What kind of war could possibly exist with the few adults that may have been around without the infusion of pre-existing cultures? Fifteen years later, some of the Nephtie men began desiring “many wives and concubines” (Jacob 1:15). How many women could there have been if there were no others besides the original Lehtie party? This verse, like others, suggests that *others* were present in the land.

During Alma’s visit to the city of Ammonihah, Amulek introduced himself by saying, “I am a Nephtie” (Alma 8:20). Considering that Ammonihah, a city in the land of Zarahemla, was under Nephtie rule, it would seem obvious that Amulek was a Nephtie unless there were non-Nephtie people living in the land as well. By about 200 B.C. “corn” (American maize) is mentioned as the grain for preference among the Lamanites (Moses 7:22, 9:14). Corn, a uniquely American grain, could not have been brought from Lehi’s world and could not have been discovered wild upon ar-

tival due to its complex cultivating techniques that will only reproduce new corn with human care. This strongly implies that **others** were already cultivating corn and taught the technique to Book of Mormon peoples.

## *Why are Others not Explicitly Mentioned in the Book of Mormon?*

When Nephi began recording their history from Jerusalem to the New World, he may have included details about encounters with native New World peoples. This would have been recorded on what is known as the “large plates” of Nephi (1 Nephi 9), which were later abridged by the prophet Mormon. Mormon—who wrote his abridgement roughly 1000 years later—may or may not have felt it important to include details about “others” from a millennium earlier.

Once Nephi had written his history, the Lord commanded him to write another record with a strict focus on the religious doings and “ministry” of his people. This record is referred to as the “small plates” and comprises 1 Nephi through Omni. Mormon was later inspired to add the “small plates” of Nephi into the stack with his own record.

After Joseph Smith translated the first 116 pages of the Book of Mormon (which would have included Mormons’ abridgement of Nephi’s history on the Large Plates), Martin Harris lost the translated pages. When the translation resumed, it is likely that Joseph began with Mosiah, which was the first Mormon-abridged chapter that continued the Nephtic history after the Small Plates came to a close. The Small Plates would have been translated later.

Why didn’t Nephi include explicit information about “others” in the Small Plates? As noted above, unlike the Large Plates—which recorded the more mundane, political, and warring elements of Nephtic history—the Small Plates focused on Nephtic ministry.

Ethnohistorian Brant Gardner calls the Small Plates an “ethnogenesis” of the Nephtic people. The people of God are no longer Israelites or Lehties but are a new people who identify themselves as “Nephties.” This new people would have been the blend of Old World Nephties and New World “others” (who were adopted into Israel’s blessings) but formed a “new community” that “required an emphasis on the new community, not its non-Israelite components. Nephi doesn’t mention the ‘others’ because he considers them already part of the new ethnicity by the time he writes.”<sup>6</sup>

The Book of Mormon could be referred to as a lineage history, dynastic history, or tribal narrative. Like the Hebrew Bible it is a history of a particular lineage—in this case the Nephtic lineage. The Small Plates narrative begins with the account of Lehi and all his children but eventually changes to that of Nephi and his descendants.

While dynastic histories claim to tell the entire story, they actually only deal with the story as it relates to a particular dynastic family. And unlike modern scholarly histories, ancient accounts often served as propaganda to support a particular leader or group. “Others” are peripheral to the main story presented by Nephi and

other Book of Mormon scribes. In traditional tribal narratives no one else exists unless it was necessary to mention them with regard to interaction with the tribe.

The families and descendants of Lamnan and Lemuel essentially cease to exist in the Nephtic tribal narrative except when they emerge in warfare with the Nephties. Once the wars end, they once again cease to exist. Likewise, the Mulekites, who by descent outnumbered the Nephties, are barely mentioned in the Nephtic record and very little information is really given about them. For the most part, Nephtic scribes are uninterested with the Mulekites (the term “Mulekite” is never used in the Book of Mormon). We see the same thing in the book of Ether. The primary character in the early chapters is the “brother of Jared.” His name is never given. Why? Because it is Jared’s lineage that is important, not the lineage of the “brother of Jared.”

We find the **same thing** with ancient Middle Eastern civilizations such as the people of Ebla who were essentially invisible to the tribal narrative recorded in the Bible. Likewise the **Egyptians are generally invisible in the Bible**. The only times they are mentioned is when it is necessary to **explain certain aspects of Hebrew history**, experience, or encounters with the Egyptians.

During the Lehties’ trek through the Arabian Peninsula they would have unavoidably encountered others along the way—especially at the guarded water-holes *en route* to Bountiful. That other people inhabited these lands is inferred when the Lord told the Lehties not to light fires to cook their food—presumably for fear that their fires would be seen by others (1 Nephi 17:12). Despite this inference and the fact that encounters would have been unavoidable, Nephi never specifically mentions others during their Old-World exodus.<sup>7</sup>

## *Objections to Others in the Land*

What about scriptures or statements by Joseph Smith that appear to suggest there were no others in the land upon Lehi’s arrival?

It seems likely that Joseph Smith would have understood the Book of Mormon according to **traditions and suppositions of his day**. He likely believed in a hemispheric geography with the Lehties as the primary (if not sole) progenitors for the Native Americans. Some of his personal comments certainly give such an impression. Joseph’s opinions on the subject do not, however, constitute revelation. Joseph no doubt had many opinions that would clash with modern science, continued revelation, or greater research on various topics. While Joseph’s opinions might be interesting, they are nevertheless opinions and can be discounted when they conflict with revealed doctrine, scientific facts, or in-depth examination. The fact that Joseph had opinions that were contrary to what we find in the Book of Mormon is a strong indication that he *translated* rather than *wrote* the text. At times, he was no better than his friends and neighbors at understanding the book he published.

While the Prophet and other Church leaders have implicitly or explicitly stated that the New World was uninhabited prior to the arrival of the Jaredites, there is no official statement or revelation on this issue. Like Book of Mormon geography, the

genetic and cultural constitution of New World inhabitants is **not a doctrinal issue** and opinions on the topic—even when made by leaders—should be weighed in light of our Chapter 3 discussion on the role of prophets.

Probably the most frequently quoted verses that imply the traditional folk-view of Book of Mormon populations comes from 2 Nephi 1:6–11 wherein Lehi prophesied that “there shall none come into this land save they shall be brought by the hand of the Lord.” Their Promised Land would be “kept as yet from the knowledge of other nations.” And if the people would keep God’s commandments they would possess this land “unto themselves. . . and there shall be none to molest them, nor to take away the land of their inheritance.” But, Lehi warned, “when the time cometh that they shall dwindle in unbelief” God would “bring other nations unto them.” These powerful nations would cause them to be “scattered and smitten.”

On the surface, this seems to support the traditional interpretation that the Lehites were the primary progenitors for the American Indians. The first question that might be asked, however, is what is meant by “this land.” Modern readers frequently tend to interpret this on a large scale—that “this land” refers to all the Americas. In Chapter 5, however, it was shown that ancient writers frequently used references such as *earth* or *land* to mean a smaller geography.

It is also significant to point out that in the Book of Mormon the “Promised Land” referred to more than one location (such as both in the Old and New Worlds) and in practice, was attached to the righteous Nephites rather than to the land itself (see Chapter 14).

A closer look at 2 Nephi is also helpful in determining what is really going on in regards to Lehi’s prophecy. Chapter 1 takes place sometime shortly after the Lehites arrived in the New World (before Nephi and his brothers separated and before the first use of the terms “Nephite” and “Lamanite”). Lehi, who was nearing death, spoke to his posterity with counsel and warning. He said that the Lord offered the land of promise in covenant to Lehi, his children, and “all those who should be led out of other countries by the hand of the Lord” (v. 5) and that none would come to the land except those brought by the hand of the Lord. So we can certainly presume that the Lord brought others into the Promised Land prior to, during, and after Lehi’s arrival. Such statements do not preclude the possibility that others already lived in close proximity to the Lehites.

The Lord promised that their people would be “kept as yet from the knowledge of other nations” (v. 8) as well as “kept from all other nations” (v. 9). As Gardner explains, “Lehi comforts his people by indicating that there will not be foreign nations overrunning them ‘as yet.’”<sup>8</sup> While modern readers automatically assume that these “nations” must come from across the sea, in Lehi’s limited land-view other “nations” could come from over the next mountain or valley. Verse nine’s “kept from all other nations” also means “kept from domination by.”

And what does Lehi mean by “nations”? In Lehi’s home world—the ancient Middle East—a “nation” would have referred to large powerful nations such as Babylon and Egypt. Smaller societies, such as the hamlets that the Lehites might have

encountered upon landing in the New World, would not merit the description of “nations.” As LDS researcher Matthew Roper explains, when Lehi prophesied that they would “possess” the “land unto themselves” (v. 9), this does not necessarily mean that the Lehites are “the only inhabitants but can also mean—as it often does in Book of Mormon contexts—that a group has the ability to control and exercise authority over the land and its resources (see, for example, Mosiah 19:15; 23:29; 24:2; Alma 27:22, 26).”<sup>9</sup>

The promise to keep the land secure has a caveat: as long as those brought from Jerusalem (Lehi and his family) remain righteous, they would prosper and be “kept from other nations” (v. 9). Lehi warned, however, that the time would come when they would “dwindle in unbelief” (v. 10) after which the Lord would allow “other nations” to take their “possessions” and cause them to be “scattered and smitten” (v. 11). While traditional LDS thought has supposed that this refers to the coming of the Spaniards (which may possibly account for a future and dual fulfillment of Lehi’s prophecy), Lehi immediately launched into an exhortation to his children telling them that as “one generation passeth to another there shall be bloodshed” (v. 12). Apparently Lehi suspected the coming of “other nations” in the near future. Gardner explains,

If we read these verses in the context of known history, the ‘as yet’ defines the conditions into which the Lehites landed. There was a population in the land, but no foreign conqueror ‘as yet.’ I suggest that this promise comes because of the implicit reality that other nations would indeed come, and would attempt to overrun Lehi’s descendants. Lehi receives a promise that they will be protected from those other nations upon condition of righteousness. This is a promise that is of no value unless others *do* come and threaten the Nephites.<sup>10</sup>

The appearance of the “other nations” is directly linked to not only the wickedness of Lehi’s descendants, but also to a scattering and smiting of those who become wicked.

Shortly thereafter (Chapter 5) we find that Laman and Lemuel were so unrighteous that they wanted to kill Nephi. At this point Nephi and his followers (now called *Lamanites*) separate themselves from his brothers and their followers (now called *Lamanites*). According to Lehi’s prophecy, when his children became unrighteous the Lord would allow “other nations” to smite them (2 Nephi 1:11). **This would not be possible unless there were already others present, or others arrived immediately after Laman and Lemuel fell back into their unrighteous habits.** And in fulfillment of Lehi’s prophecy, when Nephi departed he took away the Liahona, the plates of brass, and the sword of Laban (the “possessions” important to the Lehites—both Nephites and the Lamanites). In time we read how the Lamanites were scattered and smitten. Several centuries later, we find Alma exhorting his people to righteousness and recounting the story of Nephi’s wayward brothers as an example of the consequences

of wickedness (Alma 9:13–14). The Nephites were becoming wicked and were at risk of the same fate. We see the prophecies of Lehi—the promises and curses (which would include the invasion of others)—as having *already* been (or continuing to be) fulfilled.

Accordingly, it seems that a possible scenario might be as follows: When the Lehites arrived they would have found sparse communities of others, perhaps too small to be called “nations,” in their new land, the limited area they now inhabited. The Lehites would have continued to peacefully coexist, perhaps even intermingling with these others, pursuant to their righteousness. The wickedness of the Lamanties, however, might have brought aggressive others (“other nations”) into the Lehitic colony who could have merged with the Lamanties and joined in their quest to destroy the Nephites, who may also have joined with peaceful others. When the Nephites separated from the Lamanties the promises and warnings of Lehi would have been realized, and as with many prophecies in the Bible, may have seen multiple fulfillments. Some have claimed that the righteous Nephites, adhering to Israelite beliefs, would not have married other non-Israelites. While the Nephites would undoubtedly have preferred to marry within the tribe, after the Lamantie split there would have been a small pool of eligible singles. In ancient Israel, marrying outside of the tribe was discouraged but was, nevertheless, permitted. Dr. Robert L. Hubbard, non-LDS professor of Biblical literature at North Park University, explains that early Jewish commentaries claim that Israelite men were permitted to marry Ammonite and Moabite women, but that Israelite women were not allowed to marry non-Israelite men.<sup>11</sup> This would likely have been the course taken by Nephites as well as the Lamanties.

We might wonder how Nephi, as a member of a small incursion into a larger populace could become king over a people that included a majority of “others.” Gardner suggests that Nephi may have utilized his metalworking skills (with small personal objects) to trade with others. Because it would have given him trade power, the process was likely guarded. This would have “increased the economic presence of the hamlet and provided enough economic and social benefits that there were some in the village who were willing to follow him ‘up’ to what became the city of Nephi.” As the principal developer of the trade goods, he could easily have become leader of his hamlet and “as economic prosperity encouraged other hamlets to join, he was elevated to king. That general process appears to be the way Mesopotamian cities were formed (around basically a few entrepreneurs).”<sup>12</sup>

How do population estimates match what we currently know from Mesopotamian studies? Critics frequently contend that the Book of Mormon tells of millions of Nephites and Lamanties yet there is no sign of their existence from the archaeological remains. As LDS scholar John Tvednes has pointed out, however,

...only the Jaredites are ever said to have numbered in the ‘millions’, and only at the end of their history, when we read that nearly two million men had been slain with their families (Ether 15:2). On the other hand, the Nephites and Lamanties, whose thousand-

year history comprises most of the Book of Mormon ... are described in terms of ‘thousands’ or, at most, ‘tens of thousands.’ [By Mormon 2:9, for instance, we read that the Mormons’ 42,000 soldiers were up against 44,000 Lamantie soldiers.]<sup>13</sup>

There are a number of important things to understand when we attempt to deduce Book of Mormon population numbers. First, virtually all LDS scholars agree (based on evidence from archaeology, history) and within the Book of Mormon itself that the Lehites were a small incursion into an larger existing population and that the terms *Nephite* and *Lamantie* changed through the years to accommodate an insider/outsider perspective just as we find with similar examples throughout history.

Second, if we approach the text as authentically ancient we should compare it to other ancient texts. It was shown in Chapter 5 that Old Testament population figures are often overstated for rhetorical and literary purposes. Non-LDS linguist Dr. Joel Hoffman points out that population figures or military numbers in ancient secular and religious works often “have little resemblance to historiographic reality.” One ancient author, for instance, claimed that the Persian army had 1.7 million soldiers when they invaded Greece but modern scholars claim that “the Persian army consisted of fewer than 200,000 soldiers at most.”

In the first Gulf War, the United States sent some 500,000 troops to the Middle East. A reasonable but wrong conclusion would have been that those troops contained several million individual soldiers. After all, a boy-scout troop, a girl-scout troop, or, for that matter, the F-Troop (from the television series) usually has more than a dozen members. The confusion comes because the word “troop” at once means “group of people” and “person.” Without external supporting evidence, it might be difficult for a researcher in several hundred years to figure out when the word means what.<sup>14</sup>

Even if, however, we assume that the numbers in the Book of Mormon are accurate, we really do not have any serious problems. By about 76 B.C. we read about “tens of thousands of Lamanties” that were killed in battles. The number of war casualties tell us that the overall population had to be larger than those who fought and died in war (which were typically males aged 15–30). These demographics were reviewed by Dr. James E. Smith, who (at the time of publishing the article herein cited) was a senior research associate at the Unit of Ageing at Cambridge University for a group on the History of Population and Social Structure.

Dr. Smith points out that calculating population from casualties can be difficult because of so many other factors. In Alma 2:19 we read that about 19,000 total soldiers were killed in a civil war between the Nephite-loyalists and Amlicites. Smith notes that population estimates based on this figure range from 300,000 to 1.5 mil-

lion. Easy answers are not forthcoming when we try to extrapolate population statistics from an ancient text.<sup>15</sup>

How do even these rough estimates fit with what we know about ancient Mesamerica? Dr. John Clark, a professional archaeologist who specializes in Mesamerica studies, explains that "Estimating ancient populations is one of the most difficult tasks archaeologists undertake, and it may require another fifty years to reconstruct Mesamerica's demographic history. Enough is known, however, to address some claims about lands and peoples." "...it is important to recog-nize," notes Clark, "that Mesamerica was the most densely populated spot in the Americas and had millions of inhabitants, an order of magnitude that supports the general plausibility of Book of Mormon demography."<sup>16</sup>

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## 16 Lamanite Identity and the Book of Mormon

Who were the Lamanites and how do they relate to modern Native Americans? The questions are easier than the answers. In order to properly address these concerns we need to approach the topic with some background information.

### *The Book of Mormon Does not Deal with All Ancient New World Peoples*

Despite common misconceptions among many LDS, the Book of Mormon does not claim to be a record of all those who inhabited the New World. For at least seven-hundred years many (and today probably most) LDS scholars have found evidence within the Book of Mormon text that Book of Mormon geography encompassed a limited geography, generally believed to have transpired in Mesamerica, and that Book of Mormon peoples interacted with pre-existing populations (see also Chapters 14 and 15).

Critics go to great lengths in their attempt to show that the prophets and most members traditionally interpreted the Book of Mormon as a record of the native inhabitants of all the Americas, but, as noted in previous chapters, tradition is not a substitute for revelation. Speculation, even by prophets, does not constitute official doctrine. Without any reason to question traditional assumptions, most people understand new information according to familiar information.

As new editions of the Book of Mormon have been published, some have added supplementary information to the actual text. In the 1879 edition, for example, Orson Pratt added non-doctrinal explanatory footnotes—including ones based on Pratt's interpretation of Book of Mormon geography. In 1920 James Talmage added more introductory information while removing Pratt's geographical footnotes.

In the 1981 edition Elder Bruce R. McConkie (who was appointed as part of the LDS Church scripture committee) added chapter headings as well as a new introduction that stated that the Lamanites are the “principal ancestors of American Indians.” Like the chapter headings, footnotes, and all other ancillary and explanatory texts added to the volume, the introduction does not carry the same weight as the actual scriptural text. It is also important to note that in his 1966 book, *Mormon Doctrine*, McConkie acknowledged that modern Native Americans would have “had other blood than that of Israel in their veins.”<sup>1</sup> In 2006, the Church clarified the introduction to state that the Lamanites are “among the principal ancestors.”<sup>2</sup> This change implies that the issue has not been settled by revelation and that there is no doctrinal position on the cultural composition of ancient America.

With this expanded appreciation of New World inhabitants, some members have wondered about the accuracy of the statements (recorded in LDS scriptures or made by prophets and general authorities) that refer to Native Americans as “Lamanites.” There are three different aspects to this issue: genetics, culture, and genealogy.

## Genetics

One of the more recent and seemingly sophisticated attacks against the Book of Mormon has come from those who claim to use DNA to demonstrate that there never were any Israelites in the ancient New World.

While DNA science is relatively new, it has proved to be an accurate and valuable tool in a number of research areas. *Nuclear DNA (nDNA)* studies have been useful in criminal and forensic studies (as popularized by shows such as *CSI: Crime Scene Investigation*) and even in helping identify victims of the 9/11 terrorist attacks. Likewise, historical dynamics measured by population genetics methods often rely on the examination of *mitochondrial DNA (mtDNA)*, which is transferred practically unchanged from mother to child. Thus far, the vast majority of all mtDNA data studied to date on Native American populations indicate Asian affinity. This supports the primary scientific theory that the Americas were populated by people migrating from Asia by way of the Bering Strait, in what might have been three primary migrations.<sup>3</sup> According to the critics, the genetic Asian connection means that there is no trace of Israelite DNA and therefore the Book of Mormon is false.

It should be noted that those who claim that DNA has demonstrated a non-historical Book of Mormon have not done any actual DNA research on this issue, but have instead used the DNA studies of others who never intended their research to be fitmus tests for Book of Mormon history.

Some critics have claimed that real scientists—by which, of course, they mean “non-Mormon scientists”—would not agree with LDS scientists on their approach to the DNA issues. Ironically, few critics who have engaged the DNA issue have advanced degrees commensurate with this particular topic. I am aware of only two such critics. The first is Thomas Murphy, an inactive Mormon anthropologist who rejects the historicity of the Book of Mormon and has worked with anti-Mormon groups

to promote that concept. The second is Simon Southerton, an ex-Mormon biologist with advanced training in plant genetics, who has taken up the DNA argument as a weapon against his former faith. Even Southerton, however, recognizes that in order for the DNA arguments to have any substance, it must be argued that according to the Book of Mormon all Native Americans are the exclusive descendants of Book of Mormon peoples. He once wrote:

In 600 BC there were probably several million American Indians living in the Americas. If a small group of Israelites, say less than thirty, entered such a massive native population, it would be very hard to detect their genes today. However, such a scenario does not square with what the Book of Mormon plainly states and with what the prophets have taught for 175 years.<sup>4</sup>

We see how this quickly shifts from a scientific argument to a theological argument. If the Book of Mormon relates the history of small groups of Israelites who coexisted and intermarried with Native Americans, DNA science—as will be shown in this chapter—does not negate the authenticity of the Book of Mormon.

While there are extremely few DNA specialists who support the contra-LDS position, we find that there are several LDS DNA specialists (particularly those with advanced training in population genetics) who have weighed in on the topic. Dr. Michael Whiting and Dr. John Butler (along with their credentials) were discussed in Chapter 8. Both of these men are scientists of the highest caliber and are engaged in cutting-edge DNA research. To this list I also add the following LDS scientists:

- Dr. Scott Woodward was a Professor of Microbiology and faculty member of the Molecular Biology Program at Brigham Young University for sixteen years. He is currently the head of the Sorenson Molecular Genealogy Foundation in Salt Lake City, Utah. In the past, he had been involved with several excavation teams in Sella, Egypt, where he directed the genetic and molecular analysis of Egyptian mummies, both from a commoners' cemetery and from Egyptian Royal tombs. He was also a visiting professor at Hebrew University where he was involved in studying the DNA of the Dead Sea Scrolls. While completing his postdoctoral work in molecular genetics at the Howard Hughes Medical Institute at the University of Utah, Dr. Woodward discovered a genetic marker used for the identification of carriers and the eventual discovery of the gene for cystic fibrosis. He was also involved with the identification of other gene markers for colon cancer and neurofibromatosis. His work has been featured both nationally and internationally on numerous programs including *Good Morning America* and both the *Discovery* and *Learning* channels.

- Dr. Ryan Parr has a Ph.D. in biological anthropology from the University of Utah and is currently vice president of Research and Development at Genesis Genomics, a Canadian biotechnical company exploring the use of mtDNA as a “biosensor” for the early detection of prostate and breast cancer. He has authored and coauthored mtDNA studies of Native Americans, specializing in ancient DNA. One of his previous projects involved the DNA sequencing of Egyptian mummies found at the Dakhleh Oasis. Another major project was the use of mtDNA in the identification of the Unknown Child from the 1912 RMS Titanic disaster.

- Dr. Ugo Perego (Ph.D., University of Pavia) a population geneticist specialized in the origins of Native Americans who is currently working as one of the senior researchers for the non-profit Sorenson Molecular Genealogy Foundation (SMGF). In ten years with SMGF, Dr. Perego has supervised the worldwide collection of more than 110,000 DNA samples and corresponding genealogical records, and produced nearly 150 lectures and numerous publications on DNA and how it relates to ancestry, history, and population migrations. Dr. Perego has provided me with invaluable assistance in writing this chapter on DNA.

I do not want to make this an argument from authority because even non-experts can make sound arguments, but the claim that Mormon scientists do not have the expertise to competently speak on this matter is simply false.

While it is true that DNA studies thus far support the populating of the ancient New World by Asiatic migrations, they fall short of disconfirming the Book of Mormon narrative. Following are several reasons why.

## *We Do Not Know What Israelite DNA from Lehi's Time Looks Like*

In order to know if ancient Israelite DNA could be found in the ancient New World, we would have to recognize this DNA. Here we encounter at least two problems. First, most people are probably inclined to think that ancient Israelite DNA should be detectable in current Jewish populations, based on the assumption that the Jews are a race who have remained genetically homogeneous since ancient times. The reality, however, is that “Israelite”—like “Jew,” “Mormon,” or “American”—is a cultural rather than biological definition. Other than a few extreme examples, current Jewish populations (from whence samples are drawn for Israelite DNA) do not necessarily reflect the DNA make-up of ancient Israelite populations.

Second, even anciently the Israelites were composed of multiple genetic backgrounds, each carrying different mtDNA markers from their mothers. By the time Jesus was born, the Jews were an even more genetically diverse group, having in-

termarried with Canaanites, Babylonians, Persians, Greeks, and Romans, as these outsiders conquered Judah. This intermarriage has only increased to the present day. Under such conditions we should not expect to know what Lehitic DNA looked like.

## *DNA Markers Can Disappear*

As already argued several times in this book, the Lehitic and Mulekites would have been small incursions into much larger existing populations, probably of Asiatic origin. When small populations mix with large populations we have a significant risk of losing the DNA signatures of the smaller population.

Most of the DNA studies done on Native Americans (the root of Book of Mormon DNA criticisms) are based on mitochondrial DNA (mtDNA) which is inherited from the mother. MtDNA lineages are divided in branches (*haplogroups*) on a large tree called *phylogeny*, with a built in “molecular clock” that measures mtDNA changes (mutations) over time. While science adapts and modifies according to newer discoveries, the current molecular clock tells us that the ancestors of most modern Native Americans migrated to the Western Hemisphere about 15,000–17,000 years ago.

This molecular clock, however, has some limitations. We might wonder, for example, how the DNA of modern Native Americans was impacted by the arrival of many different groups that came to the New World following the arrival of the Spaniards. In theory, the currently accepted molecular clock would not be able to differentiate between pre- and post-Columbian mtDNA lineages brought to the Americas within the last 2,000–3,000 years. In other words, any mtDNA found at great frequencies in today's Middle East as well as in living Native Americans could have arrived in 600 B.C. (by a group such as the Lehitic) or in the sixteenth century by Spaniards (who had large Jewish population for centuries in the Iberian Peninsula). There is currently no way to tell the difference.

Although mitochondrial DNA (mtDNA) is passed from mother to child, all population geneticists understand that worldwide certain markers (known as *haplotypes* which help define *haplogroups*) will disappear because of bottlenecks and genetic drift. For example, geneticists trace all modern human mtDNA to a common maternal ancestor (the “Mitochondrial Eve”); a single haplogroup that originated in Africa dating to about 200,000 years ago. Other women carrying different and unknown mtDNA lineages existed as well and would also have had sons and daughters, but their mtDNA eventually disappeared because of genetic drift and bottlenecks. When the first anatomically modern humans left Africa about 70,000 years ago they undoubtedly had several women in the initial group. Yet only one mtDNA lineage (L3) is the maternal ancestor of all the non-African people living today. That is only one single common female ancestor for all the people of Europe, Asia, Oceania, and the Americas. Surely she was not the only woman to leave Africa, but the other mtDNA lineages disappeared due to genetic drift and bottlenecks.



## Genetic Bottleneck

*Genetic bottleneck* occurs when a significant portion of a population does not reproduce or at least does not pass on mtDNA (which is only passed on by the mother). Sariah would have passed her mtDNA on to her sons and daughters but only the daughters would have continued to pass Sariah's mtDNA on to the grandchildren. The grandchildren who were born to Lehi and Sariah's sons (such as Nephi, Laman, etc.) would *not* have had Sariah's mtDNA but would have carried the mtDNA of their mothers (Lehi and Sariah's daughter-in-laws). And we know that many of Lehi's sons married the daughter's of Ishmael (1 Nephi 16:7). If Lehi's and Sariah's daughters had sons and no daughters, then Sariah's mtDNA would have come to an abrupt end after only two generations.

Another cause for a bottleneck is when a large portion of a population dies (often due to war, famine, or disease) and the DNA traits of the surviving group do not accurately represent the diversity of the larger group from which they emerged. Such a bottleneck occurred when diseases introduced by the Spaniards and other Europeans wiped out millions of Native Americans (perhaps up to 80%–90% of pre-Columbian populations). In fact, non-LDS molecular anthropologist Dr. Michael H. Crawford says that the Spanish Conquest, “squeezed the entire Amerindian population through a genetic bottleneck. . . . This population reduction has forever altered the genetics of the surviving groups, thus complicating any attempts at reconstructing the pre-Columbian genetic structure of most New World groups.”<sup>5</sup>

## Founder Effect

This type of genetic bottleneck happens when a small (founder) group leaves a larger group (as with the Lehtes/Mulekites leaving a larger Israelite group). In some of these occurrences, the smaller group contains only a small fraction of the genetic markers of the larger group. In such instances, the smaller group's DNA signature is significantly different than that of the groups' origin. Thus, for the Book of Mormon, the DNA sampling of the Lehtes/Mulekites (if we had it) may not accurately reflect the DNA markers of their Israelite heritage.

## Genetic Drift

With mtDNA we have a problem with “lucky genes.” MtDNA follows a single line of transmission (mother to child), obscuring the fact that founding mothers have many other descendants whose mtDNA may be different. For example, if you go back two generations to your grandparents, there are four individuals (two parents for each of your parents), two of which are female (grandmothers on both sides). Only one of these grandmothers will have passed on her mtDNA to you, regardless of whether you are male or female. You will not have the mtDNA of one of your grandmothers. If we go back ten generations, you have 1,024 ancestral slots or number of possible contributors to your genetic makeup, yet only a single female ancestor will provide your mtDNA. The further we go back the more ancestral slots are

available. The actual number of progenitors—due to *coalescence* (the intermarrying of relatives, including distant relatives)—is actually lower. Of these 1,024 ancestral slots, half are female. You will inherit the mtDNA of only one of these 512 female ancestral slots. Small populations are more susceptible to drift and the smaller the population the faster the drift. Since there are (conservatively) at least 100 generations between modern Native Americans and Sariah, there are more ancestral slots than there have been people on Earth.

A recent DNA study of over 131,000 modern Icelanders, for example, found that many DNA markers disappeared in just over a century. According to DNA tests, over 86% of Icelandic males descended from just 26% of potential male ancestors in their family tree who were born between 1848 and 1892 and also lived in Iceland. Among the female population, nearly 92% descended from only 22% of potential female ancestors in their family tree who were born between the same years as the male ancestors. Thus we see that the vast majority of the Icelandic ancestors just 150 years ago did not contribute mtDNA or Y-chromosome DNA (DNA from the father) to their descendants (see more on Y-chromosomes in the next section). Conversely, a small minority of Icelandic ancestors from 150 years ago contributed the bulk of DNA markers to their now-living descendants. Most of the Icelandic people living today who have genealogical records showing that their ancestors lived in Iceland 150 years ago could not detect DNA for those ancestors. Is it really any wonder that we find the same scenario with Book of Mormon peoples?

## Y-Chromosome DNA

While mtDNA focuses on females passing on their DNA to their offspring, some critics have also examined studies of the Y-chromosome (Ycs) which is passed from father to son. Critics claim that the more limited Ycs studies support the mtDNA conclusions that Israelites did not migrate to the ancient New World. More recent studies, however, have shown that such a position may be inaccurate and premature. Ycs markers can have the same problems as mtDNA markers. Population geneticist Dr. Ugo Perego, who for a time lived in Utah, was born and raised in Italy where he traces his ancestry back to the mid-seventeenth-century. His Ycs, however, is rare among Europeans and is mostly found in East Asia. Perego has three young sons, all of whom carry this same Ycs marker. If data was collected from Perego, his sons, and other Italians in his former Utah neighborhood, this “founder effect” would incorrectly suggest that a large portion of Italians are paternally related to eastern Asian populations.

In the Americas, we have another problem in trying to find a Ycs affinity to Book of Mormon peoples. Based on DNA studies using samples from modern mixed and indigenous population, it is possible to observe that the male Ycs suffered a bottleneck at least tenfold that of mtDNA—probably because the relatively few surviving males (Ycs lineages) were not given the same chance to reproduce as indigenous women who most likely had children with male colonists from the Old World.<sup>6</sup>

Lastly, two of the dominant Y-chromosome lineages in Native American populations are actually also found in modern Jews but that does not prove that they are descended from Near Eastern populations.

## The Lemba Tribe

In South Africa there is a black Bantu-speaking tribe known as the *Lemba*. For many generations these people have claimed to descend from Jews and they practice a religion similar to Judaism.

Recent DNA studies show that over 50% of Lemba males carry a specific genetic signature, known as the *Cohen marker*. This identifier strongly correlates to an ancient priestly Jewish clan descended from Aaron.<sup>7</sup> This demonstrates, claim critics, that small Jewish groups can still be identified even after many centuries of intermingling with a larger foreign population. They claim that we should find the same thing among Native American descendants of the *Lehites*.

This argument, however, is specious and not analogous to the *Lehites* and *Mulekites* (the two Israelite groups mentioned in the Book of Mormon). Unlike the *Lemba* who descended from Aaron (from whom the *Cohen marker* supposedly derived), *Lehi* was a descendant of Joseph and *Mulek* was a descendant of Judah. Jewish *Cohen* priests were specifically forbidden to intermarry with other *Israelites*, which is partly why there are such frequent *Cohen* markers among today's Jewish *Cohens* and why only about 2% of Jews have this marker today. There is no reason to believe that the *Cohen* marker should be found among Book of Mormon peoples. By the critics' reasoning, the 98% of Jews without the *Cohen* marker are not *Israelites*!

If the *Cohen* marker had not been found among the *Lemba*, scientists would have no reason to suspect that the oral traditions of Jewish lineage were accurate. Based on mtDNA studies, the *Lemba* were indistinguishable from other Bantu-speaking tribes. The identification of a *Cohen* marker is currently the only scientific evidence for the possible Jewish ancestry of this South African group. If, like the *Lehites* and *Mulekites*, this group had not had ancestors with the *Cohen* marker, their Jewish lineage might never have been identified.

And, as a matter of note, non-LDS DNA scientists actually have found the *Cohen* haplotype in Columbia.<sup>8</sup> The problem, as discussed above, is that according to the current molecular clock we cannot tell precisely when it was introduced, but theoretically it was introduced within the last 2,000-3,000 years. Most scientists presume that it was introduced by post-Columbian Europeans (and this is likely the case) because there was a lot of Jewish DNA in Spain, but we cannot currently say with absolute certainty that it did not come from a seafaring incursion of Old World travelers in 600 B.C.

## Great Lakes DNA

What about claims that Israelite DNA has been discovered in the "heartlands" or Great Lakes region of the United States? Because the pro-DNA argument is closely tied to a specific geographical model, it needs repeating that there is no official geography for Book of Mormon events. I believe that the Mesoamerican model fits best but it is important to understand that believing Latter-day Saints can respectfully disagree as to where the events described in the Book of Mormon took place.

Elder Dallin H. Oaks, speaking of those who participate in non-official venues wherein Church-related topics are discussed, observed

[Sometimes]... a volunteer will step forward to present what he or she considers to be the Church's position. Sometimes these volunteers are well-informed and capable, and they contribute to a balanced presentation. Sometimes they are not, and their contribution makes matters worse. When attacked by error, truth is better served by silence than by a bad argument.<sup>9</sup>

I wish to "liken" Elder Oaks' comment to the arguments made by those who claim that DNA studies offer evidence or proof for the historicity of the Book of Mormon. Briefly outlined, here is the position taken by those who make such a claim:

1. DNA evidence for the *Lehites* should be discernible in modern DNA studies.
2. All Native Americans belong to one of the following five mitochondrial lineages (haplogroups): A, B, C, D, and X.
3. Haplogroup X, the least common of the five groups, appears to be traceable to the ancient Middle East.
4. Ergo, haplogroup X provides evidence or proof for the existence of *Lehites*.

The first part of this argument is based on the faulty assumption that we should expect to find *Lehite* DNA (as pointed out in this chapter). The second and third parts of the argument are somewhat accurate (with some caveats). The fourth part, however, is a faulty conclusion unsupported by what we actually know about the origin and distribution of haplogroup X.

Not long after the initial haplotypes A-D were identified in Native American populations, a fifth and more rare haplotype (dubbed "X") was also found among some Native Americans. Sister lineages to the Amerindian haplogroup X are found at low frequencies in many geographic regions of the world including Western Europe, North Africa, East Asia, and the Middle East. The presence of haplogroup X in the Americas is primarily limited to the Great Lakes area (which is one of the pro-

posed models for Book of Mormon geography), but it is also found to lesser extent in other parts of North America.

Thanks to an improved analysis of mtDNA genomes and a greater number of samples available, the Native American haplogroup X is currently termed X2a, a lineage that is not found anywhere else in the world.

As noted earlier, mtDNA mutations are measured by molecular clocks used to calculate age estimates of the different branches in the mtDNA tree. Currently, there are five different molecular clocks that have been proposed using all or a considerable section of the mtDNA genome. All five clocks provide close estimates for haplogroup X2a indicating that it pre-dates the Lehitics arrival to the Americas by several thousands of years. So, in reality, based on current DNA science and the lack of additional evidence, X2a cannot be linked to the Lehitics.

The conclusions we can draw from the DNA issue are as follows: There has never been a scientific DNA study intended to test the authenticity of the Book of Mormon. Reports claiming to use DNA to refute (or prove) the Book of Mormon are based on studies never designed to answer the question of Book of Mormon historicity.

We do not know what a Lehitic gene would have looked like, so we do not know what to look for. It is likely that the Middle Eastern DNA of Lehi's day looked completely different from the "Israeli" DNA available today. Population genetics demonstrate that the DNA signature of small populations can disappear when infused into larger populations, and even modern Jews cannot always be detected by DNA testing.

Current research suggests that the X haplogroup found in the Great Lakes area of the United States does not point to the correct time frame required to support a Lehitic incursion into that region of the country. Therefore, current DNA evidence is not incompatible with a belief that the Book of Mormon is an authentic ancient document but also does not prove that the Lehitics arrived in the Americas around 600 B.C.

## Culture

Culture is learned and generally passes from parents to children.<sup>16</sup> Sometimes, however, people change or assimilate into different cultures or, at least, their children become part of the new culture. Thus we have Americans who are culturally American, although they (or their ancestors) might have come from Africa, Europe, Asia, or many other parts of the world. Terms such as *African*, *Asian*, *Jew*, *LDS*, *Indian*, and so forth are social constructs, not biological or genetic classifications.

The first Lamanite group was a cultural classification. Both Laman and Lemuel (and those who joined them) were called *Lamanites*. While the original Lamanite party would certainly have had Lehitic DNA, anyone who joined the Lamanites would be called *Lamanite* by the Nephites (2 Nephi 5:14).

Intertwined with cultural identification is a concept from anthropology known as *ethnic vs. etic* discourse—basically perceptions of insider vs. outsider. *Ethic* is how

a people understand themselves, whereas *etic* is how a people are understood by outsiders. Often these two views are very different. Romans, for example, called one people "Greeks" who called themselves "Hellenes." Those called "Egyptians" by the Greeks were "Mizraim" to the Hebrews and neither term to the Egyptians themselves. To us, some Europeans are "German," to the Italians "Tedesco," to the French "Allemand," but to themselves they are "Deutsch." We call the early inhabitants of this continent "Native Americans" or "Indians," but that is not how they referred to themselves. To the Nephites virtually all non-Nephites were "Lamanites," while to Latter-day Saints, all Native Americans are "Lamanites."

Not only can these cultural conceptualizations be different depending on an insider or outsider perspective, they also can shift over time or circumstance. Jews in Utah, for example, can also be referred to as "Gentiles"—that is, a non-LDS person. Even outside of Utah the term "Jew" is dependent on circumstances. A Jew is someone who is descended from Judah as well as someone who adopts the Jewish culture and religious life. Someone can be born a Jew as well as become a Jew through conversion. Likewise, in 1 Nephi 14:2 we read that righteous Gentiles would become numbered among the "house of Israel" as well as the "seed" of Lehi.

The term *Lamanite* meant different things to Nephi, Alma, Mormon, and even Joseph Smith (which is what we would expect—and happen to find—if the Book of Mormon is an authentic ancient text written by multiple authors over many centuries). As with Jews, we read in the Book of Mormon that someone could become a Lamanite. After Christ's visit to the New World, Book of Mormon peoples lived in harmony for many decades. During that time, there were "no Lamanites, nor any manner of -ities; but they were one, the children of Christ" (4 Nephi 1:17). Several decades later we read of a small revolt of people who had "taken upon them the name of Lamanites; therefore there began to be Lamanites again in the land" (v. 20).

## Genealogy

Finally, we have genealogy, or one's ancestry. Everyone has two parents, and each parent has two parents. If you go back to two generations (to your grandparents) you have four ancestral slots filled by two grandfathers and two grandmothers. As we go further back in our genealogy the number of ancestral slots increases geometrically. These slots do not represent the actual number of ancestors, however, because intermarriage among relatives will cause some ancestors to fill multiple ancestral slots.

If we were able to do the genealogy for a modern Native American back to Lehi's generation, we would have approximately 90 generations. This Native American would have over 1.2 octillion ancestral slots (that is more than 1.2 trillion x 1 quadrillion). Now obviously he would not have 1.2 octillion ancestors (there have not been that many people in the entire history of the world). Some ancestors would fill many of these ancestral slots. Nevertheless, on a giant genealogy chart, there would be 1.2 octillion ancestral slots. From how many slots would our Native American be descended? All of them. If Laman (or a descendant of Laman) was an ancestor in just

one of these 1.2 octillion ancestral slots, then it can legitimately be claimed that our Native American is a Lamanite descendant.

Recent studies suggest that we are related in several ways and that many large groups of humans are often related in distinct ways as well. Current research, for instance, posits that all 6.5 billion people on the earth today have a common ancestor who may have lived as recently as the time of Christ. Furthermore, if we were to do a worldwide family tree back to about the fifth millennium B.C., we would find that all people living today would have the same set of ancestors.<sup>11</sup> Other studies indicate that a large percentage of all people may have traces of Israeliite ancestry, and that most people may be descendants of Abraham (see Genesis 22:17). Regarding the Book of Mormon, one scholar who has studied this concept notes:

The numerical dynamics of population mixing make it easily feasible...that most Amerindians are descended from Book of Mormon peoples, even if Book of Mormon peoples were originally a minority of ancient American populations and are thus only a part of the ancestry of most individuals.<sup>12</sup>

In summary, while there is no evidence for a genetic link between modern Native Americans and the Lehiite/Lamanites (and there is no reason to suspect that Lehiite DNA would be detectable in modern native peoples), LDS scriptures and prophets are justified in referring to them as "Lamanites" due to the likelihood of cultural and genealogical affiliations.

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